中国中铁股份有限公司
CHINA RAILWAY GROUP LIMITED

2025

Environmental, Social and Governance Report and Sustainability Report


永远的铁路先锋
中国中铁股份有限公司
CHINA RAILWAY GROUP LIMITED

About This Report

This report is the 18th consecutive Environmental, Social and Governance (ESG) Report and Sustainability Report issued by China Railway Group Limited (CREC), aiming to disclose the Company's ESG strategy, management systems, practical initiatives, and key performance, while addressing key ESG issues of various stakeholders.

Reporting frequency

The Report is an annual report, covering the period from January 1, 2025 to December 31, 2025. To enhance comparability and forward-looking perspective, certain content extends beyond this timeframe.

Reporting scope

The scope of this report encompasses CREC and all its subsidiaries.

Title description

In this report, China Railway Group Limited is also referred to as "CREC", "the Company", and "we/us". Please refer to the Appendix "Terms and Definitions" for the full names and short names of CREC's subsidiaries.

References

- *2030 Agenda for Sustainable Development* released by the United Nations
- *Reference Indicator System for the ESG Special Report of Listed Companies Controlled by Central Enterprises* issued by the State-owned Assets Supervision and Administration Commission of the State Council ("SASAC")
- *Sustainability Disclosure Standards for Business Enterprise-Basic Standard (Trial)* issued by the Ministry of Finance of the People's Republic of China
- Appendix C2 *Environmental, Social and Governance Reporting Code* to the Hong Kong Exchanges and Clearing Limited's *Listing Rules*
- *Guidelines No.14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies-Sustainability Report (Trial)*, and *Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE-Compilation of Sustainable Development Reports issued by Shanghai Stock Exchange*
- *Guidelines on Sustainable Development Reporting for Chinese Enterprises (CASS-ESG 6.0)* issued by Chinese Academy of Social Sciences

Access to the report

This report is published in both Chinese and English. In case of discrepancies, the Chinese version shall prevail. The electronic version is available for download in the Sustainability section of CREC's website: http://www.crecg.com.

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Chairman's Statement

Secretary of the Party Committee and Chairman of China Railway Group Limited

Chen Wenjian

The year 2025 was both extraordinary and challenging. Through persistent efforts, CREC delivered remarkable accomplishments. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we fully implemented the guiding principles from the 20th CPC National Congress and its subsequent plenary sessions. Staying committed to high-quality development as our core mission, we upheld national priorities and fulfilled our responsibilities as a central SOE. Despite navigating strong headwinds and overcoming numerous challenges, we achieved tangible results in adapting to changes, stabilizing operations, and forging new paths forward. Together, we wrote a new chapter in building a "High-Quality CREC".

This year, we strengthened our ideological foundation to guide development. We upheld the "Two Upholds" as the highest political principle and fundamental discipline throughout Party building, reform, and development. We promptly studied General Secretary Xi Jinping's directives on central SOE work and launched campaigns to implement the spirit of the Fourth Plenary Session of the 20th CPC Central Committee. Developing the 15th Five-Year Plan became a practical exercise to enhance political competencies. We intensified education on the Central Committee's Eight-Point Decision, fostering a culture rooted in integrity. The "Three Transformations" initiative crystallized into five major development reforms and ten innovation achievements. We established a new corporate value system centered on "Creation, Quality, and Brand", embedding high-quality development into our organizational DNA. Through grassroots Party building initiatives, we deepened the integration of Party work with business operations, turning political and organizational strengths into competitive advantages.

This year, we advanced enterprise growth through practical actions, demonstrating the responsibility of a central SOE. Prioritizing national strategies, we took the lead and made significant contributions to major infrastructure projects. Landmark projects—including the Shenyang-Baihe High-Speed Railway, Xi'an-Yan'an High-Speed Railway, and Chengdu Metro Line 13—were completed and entered service. The Changtai Yangtze River Bridge now connects north and south, while Chongqing East Station rises from the ground, injecting strong momentum into high-quality economic and social development. Breakthroughs on the Xihoumen Bridge and steady progress on the Gaoligongshan Tunnel laid a solid foundation for building China into a country with strong transport strength. We deepened high-quality Belt and Road cooperation, and Chairman Zhao Leji's inspection of the Hungary-Serbia Railway earned high praise. Landmark projects-such as the Railway from Morebaya Port to Simandou Mining Areay, Argentina's Salar de Mariana Lithium Plant, and Pakistan's Gwadar New International Airport—achieved continuous successes, further burnishing the "China Construction" brand worldwide.

This year, we pursued reforms to unlock internal dynamism. We resolutely advanced reform initiatives, with dividends continuing to emerge. CREC ranked among the top 30 central SOEs in brand-building capability, and three subsidiaries were recognized as "benchmarks" or "excellent performers" in SASAC's "Science & Technology Reform" and "Double Hundred" Actions. We proactively adapted to market changes, deepened reforms of regional headquarters and investment companies, optimized resource allocation, and fully unleashed development vitality. Anchored in the strategy of strengthening the enterprise through technology, we built the "Pioneer Large Model" innovation system and implemented eight "AI + Smart Construction" scenarios. Major national equipment—such as the world's largest-diameter vertical shaft boring machine and the world's first in-situ variable-diameter shield tunneling machine—rolled off production lines in batches, improving both work efficiency and project quality. In the past year, we won a total of 343 provincial- and ministerial-level science and technology progress awards and 2 China Patent Awards, and led the release of 3 ISO international standards, elevating innovation capacity to new heights. We highlighted the "baton" of performance evaluation, improved positive incentive mechanisms, and established a clear high-quality development orientation, fostering a stronger company-wide atmosphere of entrepreneurship and excellence.

This year, we demonstrated our dedication to serving the people through concrete actions. We upheld the people-centered development philosophy, embodying the responsibility and compassion of a central SOE. Actively participating in the capital market's "market-stabilizing initiative", we helped stabilize expectations and safeguarded the shared interests of the enterprise and its shareholders. We cultivated rural revitalization initiatives, receiving the highest "Excellent" rating for seven consecutive years in central authorities' targeted assistance programs. One case study was included in the *Blue Book on Environmental, Social and Governance (ESG) of Listed Central State-Owned Enterprises (2025)*. We recruited 7,187 college graduates, contributing to national employment stability. We strengthened specialized emergency rescue teams and responded swiftly to crises including the Dingri Earthquake in Xizang, the Myanmar Earthquake, and the Junlian Landslide in Yibin, Sichuan. Through responsibility and perseverance, we built lifelines. We carried out public welfare initiatives—including Golden Autumn Student Aid, Love Blood Donation, and Summer "Little Migratory Birds" programs—turning small acts of kindness into warm currents and conveying great love through genuine care. We implemented the principle that "lucid waters and lush mountains are invaluable assets", striving to build green ecological projects. We selected 100 green engineering projects and 51 energy-saving and low-carbon technologies, setting strong examples and contributing to a Beautiful China where humanity and nature coexist harmoniously.

Looking ahead to 2026, the clarion call for a new journey has sounded. We will continue to study and implement General Secretary Xi Jinping's important instructions on central SOE work and the spirit of the Fourth Plenary Session of the 20th CPC Central Committee. Guided by high-quality Party building, we will ensure high-quality development, focus on our core responsibilities, boldly advance into deeper stages of reform, and balance development with security. Anchored in the corporate values of "Innovation, Quality, and Brand", we will strive with greater enthusiasm, more pragmatic approaches, and stronger measures to ensure a successful and strong start to the 15th Five-Year Plan. We are determined to become a pioneer in advancing Chinese modernization and a leading enterprise in the high-quality development of the construction industry.

About CREC

Company Profile

China Railway Group Limited (hereinafter referred to as "CREC") is a super-large enterprise group integrating survey and design, construction and installation, industrial manufacturing, real estate development, resource utilization, financial investment, and other emerging businesses. Headquartered in Beijing, China, CREC currently has 60 secondary subsidiaries and over 289,250 employees. It operates and implements projects in over 100 countries and regions worldwide.

CREC traces its origins to the Engineering Bureau and Design Bureau of the Ministry of Railways of China, established in March 1950. These were later restructured into the Capital Construction Bureau of the Ministry of Railways. In July 1989, the Ministry of Railways dissolved the Capital Construction Bureau and officially established China Railway Engineering Corporation. In September 2000, China Railway Engineering Corporation was separated from the Ministry of Railways and placed under the management of the Central Large Enterprise Work Committee. In May 2003, SASAC assumed the role of investor. In September 2007, China Railway Engineering Corporation exclusively initiated the establishment of China Railway Group Limited, which was listed on the Shanghai

Performance

Over

289,250 employees

Ranked

9th in the Fortune China 500

Ranked

2nd in the ENR Top 250 Global Contractors

Stock Exchange on December 3, 2007, and on the Hong Kong Stock Exchange on December 7, 2007. As the controlling shareholder of CREC, China Railway Engineering Corporation completed its corporate restructuring on December 28, 2017, and was registered with the industrial and commercial authorities as China Railway Engineering Group Co., Ltd.

CREC's business scope covers infrastructure sectors including railways, highways, municipal works, housing construction, urban rail transit, water conservancy and hydropower, airports, ports, and docks. The Company has participated in the construction of over two-thirds of China's total railway mileage, built 90% of China's electrified railways, and contributed to approximately one-eighth of China's total expressway mileage. It has constructed three-fifths of China's urban rail transit projects.

As one of the world's largest construction contractors, CREC has been ranked among the Fortune Global 500 for 20 consecutive years. In 2025, CREC ranked 43rd on the Fortune Global 500, 9th on the Fortune China 500, 2nd on the ENR Top 250 Global Contractors, 14th on the ENR Top 250 International Contractors, and 30th on the ENR Top 150 Global Design Firms.

Portion of cumulative railway construction participation by CREC in China's total railway mileage

Over **2/3**

Percentage of electrified railways built by CREC in China's electrified railways

90%

Percentage of China's total expressway mileage constructed by CREC

1/8

Percentage of China's urban rail transit projects constructed by CREC

3/5

Services provided in over

100 countries and regions worldwide

One of the World's

Largest Construction Engineering Contractors

Ranked

43rd in the Fortune Global 500

Ranked among the Fortune Global 500 for

20 Consecutive Years

Ranked

14th among the Top 250 International Engineering Contractors

Ranked

30th in the ENR Top 150 Global Design Firms

CREC 2025

Highlight Performance

Economic

Total assets
RMB **2,470.58** billion

Operating revenue
RMB **1,093.49** billion

Amount of newly signed contracts
RMB **2,750.9** billion

Total profit
RMB **33.54** billion

Net profit
RMB **26.347** billion

Total tax payment
RMB **35.078** billion

Environmental

Total GHG emissions (Scope 1 + Scope 2)
14,154,000
tons of CO_2 equivalent

GHG emission intensity (Scope 1 + Scope 2)
0.1319
tons of CO_2 equivalent / RMB 10,000

Green technology R&D investment
RMB **196** million

Environmental protection investment
RMB **1,938** million

Total energy consumption
3,944,602
tons of standard coal equivalent

Water consumption
371,839,400 m^3

Hazardous waste intensity
0.018 kg/RMB 10,000

Recycled water volume
148,736,000 m^3

Social

Total R&D investment
RMB **22.52** billion

Number of patents held
48,029 items

Total number of employees
289,250 persons

Female employees
47,780 persons

Total training investment
RMB **378.968** million

Total number of employees trained
289,250 persons

Total number of suppliers
97,966 suppliers

Total investment amount in poverty alleviation and rural revitalization
RMB **87.6** million

Governance

Number of Board Meetings held
11 times

Number of Shareholders' Meetings held
1 time

Number of directors
7 persons

Number of female directors
1 person

Number of employees participating in anti-bribery and anti-corruption training
136,216 persons

Awards and Recognition

Ranked 43rd in the Fortune Global 500

Ranked 9th in the Fortune China 500

Ranked 2nd in the ENR Top 250 Global Contractors

Ranked 14th in the ENR Top 150 Global Design Firms

Ranked 30th among the ENR Top 150 Global Design Firms

Maintained Shanghai Stock Exchange (SSE) **"A" rating** for **17** consecutive years

Received SSE **"A"** rating for information disclosure for **12** consecutive years

Awarded Best IR Hong Kong Listed Company by New Fortune magazine for **7** consecutive years

Honored as **"Best Practice Case for Board Office of Listed Companies"** by China Association for Public Companies (CAPCO) for **4** consecutive years

Ranked among the **TOP 30** Central SOEs in Brand Building Capability by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

Honored as **"Best Practice Case for the Board of Directors of Listed Companies"** by China Association for Public Companies (CAPCO) for **3** consecutive years

Ranked 47th in the **"TOP 100 Chinese Corporate Brand Value"** and **19th** in the **"TOP 60 Central SOEs Brand Value"** by the China Association for Quality

Ranked 114th in Brand Finance's **"Global 500 Most Valuable Brands"** and **23rd** in **"China 500 Most Valuable Brands"**

Listed in CCTV's **"Top 100 ESG Pioneers Among Listed Companies"**

Listed in CCTV's **"Top 100 ESG Pioneers Among Listed Central SOEs"**

CSI ESG Rating: **AA**

Wind ESG Rating: **BBB**

MSCI ESG Rating: **BB**

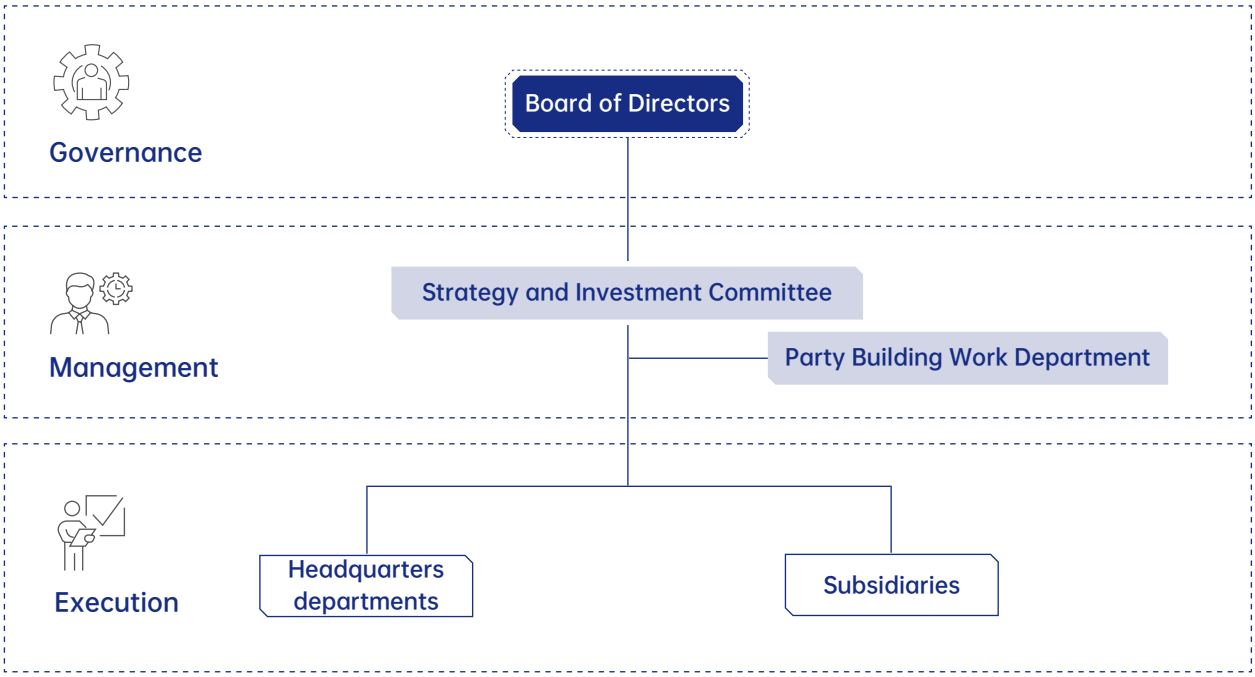
ESG Governance

CREC comprehensively integrates ESG concepts into its strategic planning and business operations, and continuously improves the ESG governance mechanism. Through deepening efficient communication with stakeholders, CREC is consistently enhancing the quality and effectiveness of ESG governance, and striving to boost high-quality and sustainable development.

ESG Governance Structure

The Company is continuously enhancing its ESG governance by establishing a three-tier framework spanning the Board, Executive Management, and Operations. This structure clearly delineates responsibilities and accountabilities across all levels, ensuring efficient management and driving ESG initiatives toward tangible results.

CREC ESG Governance Structure



The Board of Directors, serving as the highest decision-making body for corporate ESG matters, is responsible for: reviewing ESG strategies and targets; overseeing ESG governance strategies, policies, and progress toward objectives; reviewing material ESG topics; assessing and defining ESG-related risks and opportunities; reviewing the annual ESG report.

The Strategy and Investment Committee, established under the Board of Directors, oversees the formulation of the ESG governance framework and provides recommendations, monitors progress on ESG targets, regularly reviews relevant work reports, and reports to the Board.

The Party Building Department is responsible for formulating the Company's ESG strategies and targets, coordinating and advancing the implementation of daily ESG management tasks, and organizing the preparation of the annual ESG report. Departments at the Company headquarters and affiliated subsidiaries are responsible for the specific execution and implementation of ESG-related work, promoting the achievement of ESG targets.

The Company integrates ESG performance into the executive compensation framework, with key metrics spanning technological innovation, safety and quality, among others. This linkage ensures the effective attainment of sustainable development goals.

ESG Practices and Initiatives

The Company has systematically built a comprehensive, multi-tiered ESG capability framework. By driving internal upskilling and external expansion in parallel, we have solidified the foundation for high-quality ESG development.

Internally, the Company has developed a diverse and structured ESG training curriculum, focusing on core areas such as ESG principles, industry trends, regulatory updates, peer benchmarks, and strategic management. In 2025, we delivered a specialized information disclosure training program to nearly 700 ESG leads across headquarters and subsidiaries. Delivered via a blended online and offline model, this initiative significantly enhanced participants' professional competence and practical application skills.

Externally, the Company is actively engaging with the broader ESG ecosystem. We have participated in specialized training and exchange forums hosted by key regulators and industry bodies—including the Shanghai Stock Exchange, Social Responsibility Bureau of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), Beijing Listed Companies Association, China Enterprise Reform and Development Society, China Association of Communication Enterprise Management, Beijing Institute of Certified Public Accountants—to stay abreast of regulatory developments and industry trends.

Furthermore, the Company actively participated in prestigious ESG award programs this year. Recognized for our robust management and innovative sustainability initiatives, we received multiple awards and honors—a testament to the industry and capital markets' acknowledgment of our ESG performance.

Awards and Honors

- Listed in CCTV's **"Top 100 ESG Pioneers Among Listed Companies"**
- Listed in CCTV's **"Top 100 ESG Pioneers Among Listed Central SOEs"**
- Listed in CCTV **"China ESG Listed Companies Beijing-Tianjin-Hebei Pioneer Top 50 (2025)"**
- Awarded the Shanghai Securities News **2025 SSE Eagle Golden Quality ESG Award**
- Awarded Responsibility Cloud's **"Responsibility Whale Award" for Overseas** ESG Pioneer
- **Recognized as "Ernst & Young Sustainability Award 2025 Winner for Outstanding Enterprise"**
- Awarded the China Communications and Transportation Association's Transportation Enterprise Social Responsibility (ESG) Excellence Report, with **8** cases rated as Excellent Cases and **14** cases rated as Outstanding Cases
- The case study—"Efficient Treatment of Shield Muck to Support Zero-Waste City Construction"—was selected as **2025 ESG Exemplary Practice by the Ministry of Ecology and Environment**.
- Two cases—**"Red Rucheng, White Tea Fragrance: Whole-Industry-Chain Support for the Rucheng White Tea Industry"** and **"Chongtai Yangtze River Tunnel: Pioneering Intelligent Tunnel Construction Technology in China"**—were selected for inclusion in two publications by the **State-owned Assets Supervision and Administration Commission: the *Blue Book on Environmental, Social and Governance (ESG) of Listed Central State-Owned Enterprises*** and the **"Blue Book on Social Responsibility of Central SOEs (2025)"**.

Material Topic Identification

In line with global sustainability trends, international ESG standards, and regulatory expectations, the Company has systematically identified its key stakeholders' priorities. Taking into account our business development and industry characteristics, we have established the CREC 2025 ESG Materiality List. Through double-materiality assessment across financial materiality and impact materiality dimensions, the priority of topics is determined, resulting in the 2025 Materiality Matrix, with key responses to relevant issues provided in this Report.

Double Materiality Assessment Process

1 Establishment of ESG topics list

In compliance with the Appendix C2 *Environmental, Social and Governance Reporting Guide* of the *Listing Rules* of The Stock Exchange of Hong Kong Limited, as well as the *Guidelines No.14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)* and the *SSE Self-Regulatory Guidelines for Listed Companies No. 4 – Preparation of Sustainability Reports*, the Company refined its ESG agenda. By integrating macro policies, rating criteria, and industry best practices, we prioritized a focused list of 25 core ESG issues across the three pillars of ESG, serving as a strategic roadmap for our future initiatives.

2 Materiality assessment and confirmation

Impact materiality assessment

Through a combination of questionnaire surveys and face-to-face interviews, the Company engaged internal and external stakeholders to systematically assess the impact materiality of each ESG issue. The evaluation was conducted across four key dimensions: scale, scope, irremediability, and likelihood. The exercise yielded 299 valid responses. Following comprehensive data analysis, the Company reached its final conclusions regarding impact materiality.

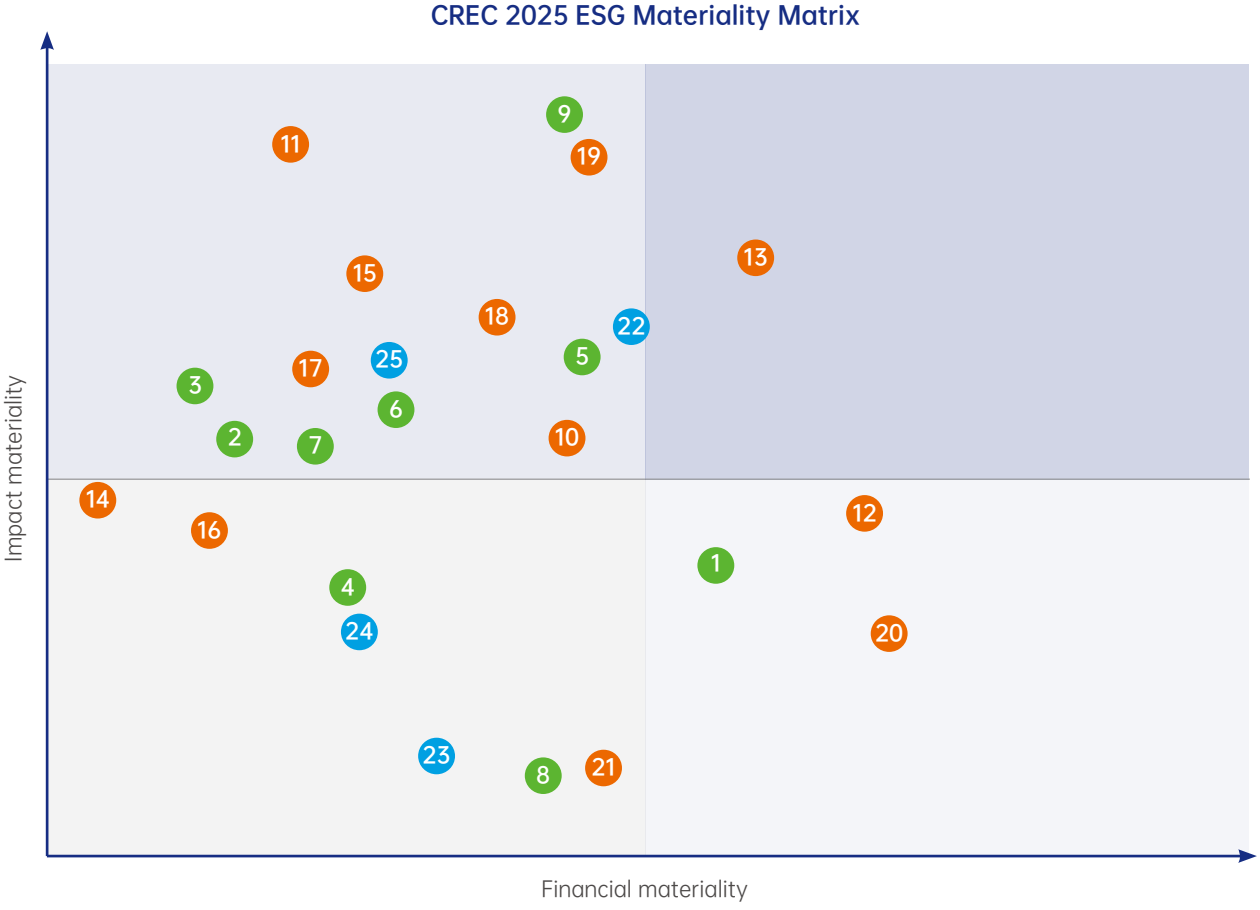
Financial materiality assessment

The Company engaged heads of relevant internal departments and external ESG experts to identify the potential financial impacts of each ESG issue. We focused on four key areas: business operations, financial position, operating results, and cash flows. By assessing the likelihood and severity of these financial impacts, the Company reached its final financial materiality assessment conclusions.

3 Prioritization of material topics

Based on the materiality assessment results, the Company prioritized the topics around the two dimensions of financial materiality and impact materiality, presenting the overall importance priority of each topic in a matrix visualization format, forming the CREC 2025 ESG Materiality Matrix.

CREC 2025 ESG Materiality Matrix



Environmental

1. Responding to climate change
2. Pollutant emission
3. Waste disposal
4. Ecological and biodiversity conservation
5. Environmental management
6. Utilization of energy
7. Utilization of water resources
8. Circular economy
9. Green construction

Social

10. Rural revitalization & social contributions
11. Science and technology innovation
12. Supply chain management
13. Product and service safety and quality
14. Data security and customer privacy protection
15. Employee's rights and interests
16. Training and development
17. Employee care
18. Occupational health and safety (OHS)
19. Serving national strategies
20. Overseas development
21. Stakeholder engagement

Governance

22. Anti-commercial bribery and anti-corruption
23. Anti-unfair competition
24. ESG governance
25. Operating in compliance with laws and regulations

4 Material topic review and disclosure

The Company has determined that the financially material topics are product and service safety and quality, supply chain management, overseas development, and responding to climate change. The resulting CREC 2025 ESG Materiality Matrix has been reviewed and approved by the Board of Directors and is hereby disclosed.

Stakeholder Communication

The Company has established a structured and multi-channel stakeholder engagement framework. This system enables us to promptly address the concerns of internal and external stakeholders, deepen mutual trust, build consensus, and secure broad understanding and support. A dedicated sustainability column has been set up on the official website to regularly update ESG initiatives, practical achievements, and benchmark cases, establishing an efficient communication bridge through transparent information dissemination.

Stakeholder	Expectations & Concerns	Engagement & Responses
 Governments/ regulatory authorities	• Responding to national strategies • Operating in compliance with laws and regulations • Promoting economic growth • Supporting local development • Promoting stable employment	• Policy implementation • Compliance with laws and regulations • Prudent operation • Participating in local projects • Provision of jobs
 Shareholders and investors	• Sustainable profitability • Standardizing corporate governance • Information disclosure standards • Protection of shareholder rights and interests	• Enhancing business management capabilities • Optimizing internal compliance management system • Timely and accurate information disclosure • Convening shareholders' meetings
 Customers	• Ensuring project quality • Responding to customer needs • Innovating engineering technologies	• Strengthening product quality control • Customer satisfaction surveys • Protecting customers' privacy • Adhering to innovation-driven approaches
 Employees	• Protecting legitimate rights and interests • Salary and benefits guarantees • Talent cultivation mechanism • Career advancement and development • Ensuring occupational health and safety	• Standardized and equitable employment • Improving the salary system • Strengthening employee training • Unblocking promotion pathways • Prioritizing employee health • Safe production environment
 Suppliers	• Standardizing procurement management • Complying with contractual agreements • Maintaining stable cooperative relationships	• Implementing open bidding procedures • Make timely payments • Long-term strategic partners
 Partners	• Compliance with business ethics • Practicing win-win cooperation	• Upholding honesty and integrity • Collaborative negotiations
 Community and public	• Focus community development • Community philanthropy	• Employee volunteer activities • Public welfare and charity activities • Social cause support
 NGOs	• Cooperation and communication • Industry-academia-research projects	• Seminars • Academic communication

Feature The "Three Transformations"

Forging China's Creation, Tempering China's Quality, Elevating China's Brand

On May 10, 2014, during an inspection of China Railway Engineering Equipment Group, General Secretary Xi Jinping delivered an important directive: "Promote the transformation from 'Made in China' to 'Created in China', from 'China Speed' to 'China Quality', and from 'Chinese Products' to 'Chinese Brands'". This has charted the course and provided fundamental guidance for China's high-quality economic development. In 2017, the State Council designated May 10 as "China Brand Day".

As the birthplace of General Secretary Xi Jinping's important directive on the "Three Transformations" and the origin of "China Brand Day", CREC has, over the past eleven years under the correct leadership of SASAC, consistently borne in mind General Secretary Xi's earnest instructions and transformed the "Three Transformations" directive into tangible practices driving high-quality development. On May 10, 2025, marking the eleventh anniversary of General Secretary Xi's "Three Transformations" directive, CREC unveiled its corporate values—"Creation, Quality, Brand"—providing a clear answer to what kind of development the enterprise should achieve and how to realize high-quality growth. This initiative not only demonstrates CREC's commitment to shouldering the responsibility of advancing the "Three Transformations" but also galvanizes collective momentum to accelerate the building of a world-class enterprise.

Driving "Created in China" Through Innovation

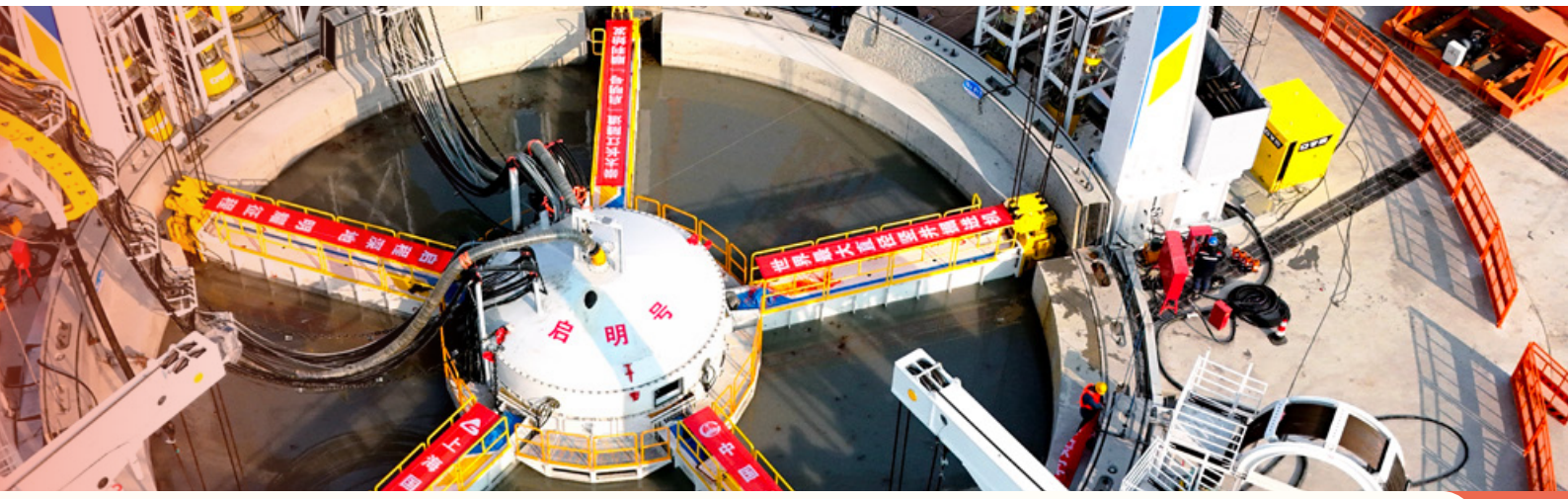
CREC consistently focuses on national priorities and corporate capabilities, advancing technological innovation and industrial innovation in a coordinated manner. It promotes both the transformation and upgrading of traditional industries and the growth of strategic emerging industries and future industries, vigorously develops a modern industrial system, accelerates the cultivation and development of new quality productive forces, strives for greater self-reliance and strength in high-level science and technology, further enhances core functions and competitiveness, better leverages the "Three Roles", and aims to become a "Three Vanguards".

Upholding Quality as the Foundation to Forge "China Quality"

CREC vigorously promotes the spirit of craftsmanship, and integrates the value pursuit of "Craftsmanship Quality, Meticulous Construction" into the entire industrial chain including product design, technological R&D, engineering construction, operation services and other links. It continuously optimizes and improves the quality of products and services, striving to erect a monument for each project completed and become a model of century-lasting quality.

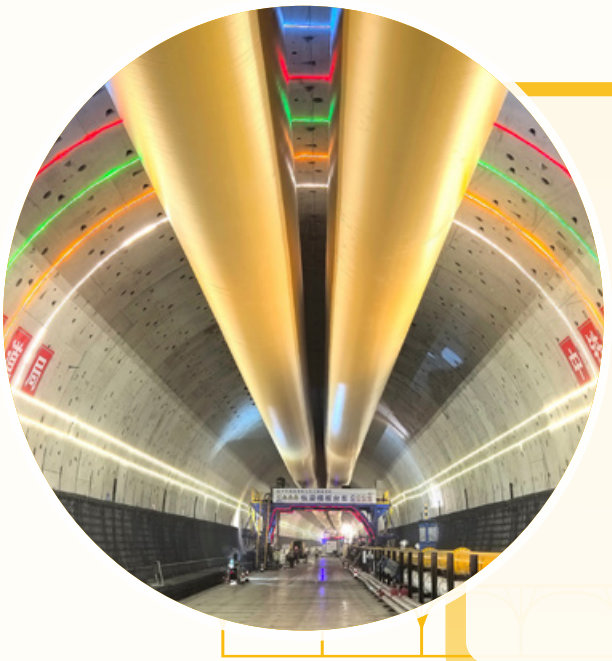
Illuminating "China Brand" Through Value Orientation

CREC adheres to enhancing brand value as a key approach for value creation. Centering on the "Belt and Road Initiative", it actively promotes the global expansion of Chinese technologies, standards, and solutions, striving to establish China's high-speed railways, bridges, tunnels, electrification systems, and equipment as "National Brand" representing China's image and world-renowned "Golden Brand".



Dadu River Railway Bridge (Plateau Railway): A New Passage Crossing Natural Barriers

In May 2025, the steel girder closure of the Dadu River Railway Bridge, constructed by China Railway Major Bridge Engineering Group, was completed. Spanning 1,293 meters in total with a main span of 1,060 m and a deck height of about 385 m above the river surface, it is the world's longest-span mountain railway suspension bridge and a landmark project along the plateau railway route.The project overcame technical and environmental challenges, delivering 9 scientific research programs, developing 6 sets of first-of-a-kind equipment, forming 20 construction methods, filing 81 patents (38 granted). Adopting steel-based platforms and garden-style construction sites, it achieves coordinated development between engineering construction and ecological protection.



Chongtai Yangtze River Tunnel: A New Milestone for Non-stop High-speed Railway Crossing of the Yangtze River

In 2025, construction of Chongtai Yangtze River Tunnel, undertaken by China Railway Tunnel Group, progressed rapidly. As a critical control project of the Shanghai-Nanjing-Hefei High-speed Railway and a key node on the coastal corridor of China's national Eight Vertical and Eight Horizontal high-speed rail network, the tunnel has a total length of 14.25 km and sets multiple world records: (1) World's longest single-head excavation at 11.3255 km; (2) World's highest design speed of 350 km/h for underwater tunnels; (3) Deepest Yangtze River tunnel, reaching 89 meters below the riverbed. Upon completion, it will drastically shorten travel times between coastal cities; the journey from Chongming to Shanghai Baoshan Station will take only 17 minutes, enabling high-speed trains to cross the Yangtze River without speed reduction.

Xi'an-Yan'an High-Speed Railway: A New Chapter for the Old Revolutionary Base Areas in Northern Shaanxi in the High-Speed Rail Era

On December 26, 2025, the Xi'an-Yan'an High-Speed Railway constructed with the participation of CREC, was officially opened to traffic. This milestone marks the entry of the old revolutionary base areas in Northern Shaanxi into the high-speed rail era, injecting new impetus into the high-quality economic and social development of the region.

Antarctic Research Stations: Writing a New Chapter in Polar Engineering Construction

Since 2002, China Railway Construction Engineering Group has dispatched 569 construction personnel and joined Chinese Antarctic expeditions 22 times, successfully undertaking key tasks including maintenance of the Great Wall Station, expansion and upgrading of Zhongshan Station, the construction of supporting logistics facilities at Taishan Station, and construction of Qinling Station, continuously writing new chapters in polar engineering construction.

Feilong Service Area (Nan-Heng Expressway): A New Model for Zero-carbon Demonstration

Practicing full-life-cycle low-carbon concepts on the Nan-Heng Expressway, China Railway Transport developed the themed Feilong Service Area with a comprehensive zero-carbon operation system. As of the end of 2025, Distributed photovoltaic installed capacity: 850.81 kW; Annual power generation: 950,000 kWh; Standard coal saved: 384 tons; Carbon dioxide emission reduction: 746 tons. Featuring a vintage train-themed national AAA scenic spot, the service area was included in the *Practical Cases of Beautiful Transportation Development* released by the All-China Environmental Protection Federation, presenting CREC's innovative solution for integrated transportation and tourism development.

Padalarang Shield Machine: A New Monument for China's Exported Largest-diameter Shield Tunneling Machine

On April 16, 2025, the Padalarang Shield Machine (CREC No.1459) — China's largest-diameter shield tunneling machine exported overseas, developed by China Railway Construction Heavy Industry — rolled off the production line. With a diameter of 15.7 meters and an overall length of approximately 113 meters, it integrates cutting-edge intelligent technologies and advanced equipment. Key highlights include: (1) Unmanned high-precision automatic cutter replacement robots, cutting labor costs and eliminating high-risk operations; (2) Online monitoring systems for disc cutter wear and grouting rate, addressing challenges in tunneling through complex strata and settlement control; and (3) Remarkably enhanced intelligence and automation in construction processes.

Hungary-Serbia Railway: A New Benchmark for Alignment between Chinese and European Standards

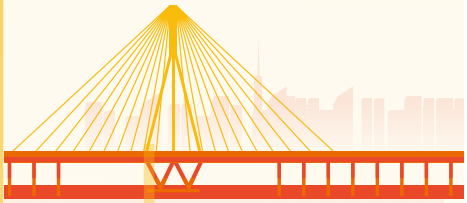
In 2025, construction of the Hungarian section of the Hungary-Serbia Railway, participated by China Railway No.9 Engineering Group, advanced steadily. Stretching 158.6 km with a design speed of 160 km/h, the line connects Budapest and Belgrade, forming a golden corridor linking Central and Eastern Europe. As a pioneering demonstration project aligning Chinese railway technical standards with EU regulations, it facilitates infrastructure connectivity under the "Belt and Road Initiative".

Guinea's Morebaya-Simandou Railway: A New Benchmark for Chinese Heavy-Haul Railways Adapted for Overseas Projects

The Morebaya-Simandou Railway is a crucial supporting project for the large-scale mining of Guinea's world-class Simandou Iron Ore Deposit and for integrated sea-rail transport. Starting from the Port of Morebaya and ending at the Simandou Mining Area, the railway traverses Guinea from west to east. It passes through 12 prefectures across four major regions (i.e., Kindia, Mamou, Faranah, and Kankan) and features 12 stations along the route. The main line spans 551.92 km, with an additional 74 km of branch lines. Multiple subsidiaries of CREC participated in the project's implementation across the entire industrial chain, covering survey & design, construction, equipment R&D, and operation & maintenance. The entire railway line adopts technical standards for Chinese heavy-haul railway and utilizes a full set of independently developed Chinese equipment. Tailored to Guinea's local geological conditions and the demand for high-volume transport, these subsidiaries have created a heavy-haul rail corridor with an annual transport capacity of 220 million tons. This project represents the innovative landing of a full-industry-chain "Chinese solution" for long-distance heavy-haul railways abroad, serving as a benchmark example of the coordinated "going global" of China's railway technology, standards, equipment, and operations.

Changtai Yangtze River Bridge: A New Benchmark for Integrated Structural Design and Transport Functions

On September 9, 2025, the highway section of Changtai Yangtze River Bridge — the world's longest-span cable-stayed bridge designed and constructed by CREC — was officially opened to traffic. As the first multi-functional Yangtze River crossing integrating expressways, intercity railways and ordinary highways, the bridge stretches 10.33 km in total, with a combined road-rail segment of 5,299.2 m. Achieving seamless integration of structural forms and transport functions, it serves as a vital transportation hub advancing the integrated development of the Yangtze River Delta region.



As of the end of 2025

- **2** academicians of the Chinese Academy of Engineering; **2** National Outstanding Engineering Teams; **9** National Engineering Survey and Design Masters; and **12** nationally selected candidates under the Hundred, Thousand and Ten Thousand Talents Project
- **3** national-level laboratories (engineering research centers) and **1** national–local joint research center
- **61** provincial and ministerial-level R&D centers (laboratories); **10** postdoctoral research workstations; **21** nationally recognized enterprise technology centers; and **142** provincially and ministerially recognized enterprise technology centers
- **132** National Science and Technology Progress and Invention Awards; **45** China Patent Awards; and **48,029** national patents held

As of the end of 2025

- A winner of a total of **5** China Quality Awards and nomination awards, the highest national honor in the quality field
- A winner of **851** national-level quality engineering awards (including **46** National Quality Engineering Gold Awards, **253** Luban Prizes, and **552** National Quality Engineering Awards)

As of the end of 2025

- CREC was listed on the "2025 Top 100 Chinese Corporate Brand Value List" with a brand value of RMB **143.247** billion, ranking **3**rd in the construction industry, **19**th among central state-owned enterprises, and **47**th among Chinese enterprises
- The Hungary-Serbia Railway (an international project) was selected as one of the **"2025 (8th) Cases of Chinese Enterprises' International Image Building"** by China International Communications Group
- CREC won a total of **8** ITA Tunnelling Awards from the International Tunnelling and Underground Space Association, **1** Special International Honor Award from the International Federation of Municipal Engineering, **1** International Project Management Silver Award, and **1** International Engineering Project Excellence Award

Strengthening Foundations Through Excellence in Governance 01

CREC strictly complies with all applicable laws and regulations, including those governing state-owned assets and securities. We continuously improve our corporate governance mechanism, which is built on statutory and transparent rights and responsibilities, coordinated operations, and effective checks and balances. By fostering positive interaction and efficient synergy between the Board of Directors (BOD) and other governance bodies, we comprehensively enhance the overall effectiveness of our corporate governance. Upholding integrity and compliance as the cornerstone of our operations, we are deeply advancing the construction of a "Law-Based China Railway" and a "Compliant China Railway". We have improved institutional frameworks, refined management mechanisms, and strengthened legal education and awareness. Compliance requirements are now embedded throughout business management. We are continuously enhancing our ability to manage the enterprise in accordance with the law, effectively building a robust barrier against risks. This creates a standardized and orderly environment that supports the enterprise's high-quality development.

Our Actions

Key Performance

- Number of Board Meetings held: **11** meetings
- Number of directors: **7** persons
- Number of female directors: **1** person
- Number of independent non-executive directors: **3** persons
- Number of employees participating in anti-bribery and anti-corruption training: **136,216** persons

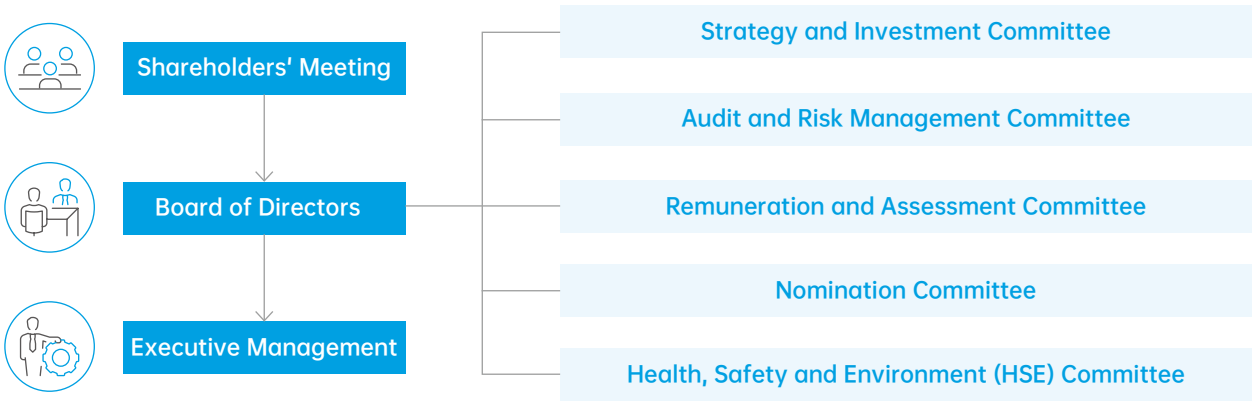

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

Standardizing Corporate Governance

The Company adheres to the principle of "Two Unwavering Commitments". We strictly comply with laws and regulations such as the *Company Law of the People's Republic of China* and the *Securities Law of the People's Republic of China*, as well as the regulatory rules of the Shanghai Stock Exchange and the Hong Kong Stock Exchange. We fully implement the deployment requirements of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) regarding deepening reforms and improving governance. Our goal is to promote the continuous, standardized, and efficient operation of corporate governance.

Corporate Governance Structure

The Company has established a governance structure comprising the Shareholders' Meeting, the Board of Directors, and the Executive Management. The BOD fully exercises its role in "setting strategy, making decisions, and managing risks". The Executive Management fulfills its role in "planning operations, ensuring implementation, and strengthening management". Relying on the specialized operational system of standing committees, the Company has built a decision-making ecosystem characterized by a clear delineation of authority and responsibility, as well as scientific and efficient operations. This provides a solid governance foundation for strategic implementation, risk prevention and control, and sustainable development.



CREC's governance structure

Board of Directors (BOD) Operations

The Company focuses on promoting the transformation of the BOD from "tangible management" to "effective governance". We continuously consolidate the foundation of corporate governance, enhance the quality of BOD construction, and effectively fulfill the functions of the BOD.

[1] Two Principles to be Consistently Upheld: Upholding the Party's leadership over state-owned enterprises is a major political principle that must be consistently followed; establishing a modern enterprise system is the direction of SOE reform, which must also be consistently followed.

Case

CREC holds BOD construction promotion meeting

In November 2025, CREC held the "BOD Construction Promotion Meeting". The meeting comprehensively deployed the next phase of Board construction, requiring the Board to effectively fulfill its functions of setting strategy, making decisions, and preventing risks, implement targeted measures to standardize the governance of our subsidiaries' BODs, strengthen the development of our external director teams, providing robust governance support for the Company's high-quality development through the establishment of high-caliber boards of directors.

BOD construction promotion meeting

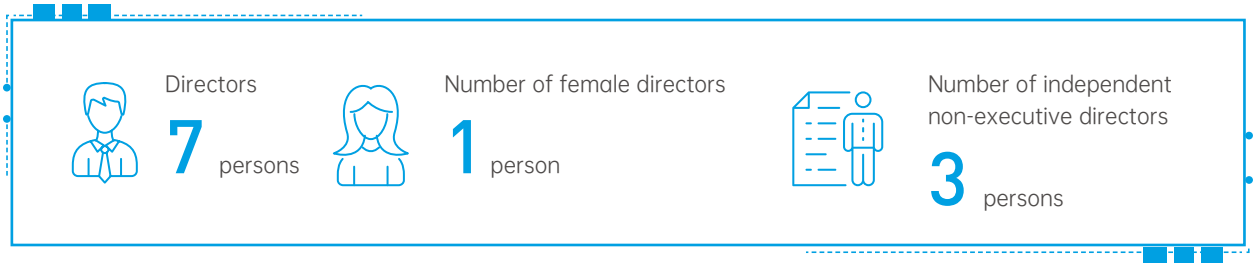
"Outstanding Board of Directors of Central Enterprises" honor by SASAC
(for **3** consecutive years)

"Best Practice Case of Listed Company Board of Directors" honor by CAPCO
(for **3** consecutive years)

	Number of meetings held	Resolutions and reports reviewed and approved		Number of meetings held	Resolutions and reports reviewed and approved
Board of Directors	11 times	125 items	Strategy and Investment Committee	9 times	24 items
Audit and Risk Management Committee	6 times	35 items	Remuneration and Assessment Committee	8 times	21 items
Nomination Committee	3 times	4 items	Health, Safety and Environment (HSE) Committee	3 times	3 items

BOD Diversity

In accordance with the listing rules and regulatory requirements of Shanghai and Hong Kong, the Company has formulated and implemented the *Board Member Diversity Policy*. During the director nomination and selection process, comprehensive consideration is given to factors such as gender, age, educational background, and industry experience. This ensures the BOD meets the Company's strategic development needs for diverse skills and experience. As of the end of 2025, the Company's BOD consisted of 7 directors, of which female director accounted for 14%. The seven directors possess professional knowledge and extensive industry experience relevant to the Company's business development. They cover diverse fields such as corporate management, engineering management, and financial accounting. They play a crucial role in enhancing the decision-making efficiency and quality.



BOD Independence

The Company strictly selects and appoints independent directors in accordance with the *Articles of Association*. Both the number and background of independent directors comply with the regulatory rules of the listing jurisdiction. As of the end of 2025, the Company had five non-executive directors, accounting for more than half of the total Board members. It also had three independent non-executive directors, representing over one-third of the Board. Meanwhile, the Company has established specialized systems such as the *Independent Director Management Regulations* and the *Working System for Relevant Functional Departments Serving BOD Special Committees*. These systems provide solid institutional support for standardizing corporate governance operations, safeguarding the lawful performance of duties by non-executive directors, and fully leveraging their role.

BOD Capability Building

Based on the actual operational development needs and leveraging the professional expertise of directors, the Company regularly organizes BOD training, research, and exchange activities. This continuously strengthens the BOD's performance capabilities. In 2025, focusing on key areas such as information disclosure, market value management, public opinion response, and compliance performance, the Company arranged for directors to accumulate 31 attendances at thematic training sessions. At the same time, leveraging professional platforms including state-owned asset and securities regulatory authorities, the CAPCO, renowned consulting firms, and law firms, the Company conducted systematic training. Training areas included strategic planning, corporate governance, macroeconomics, the construction industry, and anti-corruption. This continuously enhances the professional competence and performance effectiveness of directors.

Stimulate Management Vitality

The Company is deeply advancing the modernization of the state-owned enterprise governance system. We are effectively transforming institutional strengths into governance efficacy and fully stimulating the internal drive of the Executive Management to pursue business development. Focusing on institutional integration, we closely align with the Executive Management's functions of "planning operations, ensuring implementation, and strengthening management", and optimize the mechanism for the Executive Management to report to the BOD. Focusing on personnel configuration, we have scientifically established the leadership structure, fully staffed and strengthened the management team. This ensures members collaborate effectively and fulfill their duties efficiently, while executing resolutions, exercising delegated authority, and reporting on business operations regularly in accordance with regulations. Focusing on practical results, we have strengthened incentives and accountability to enhance the team's initiative and sense of responsibility. This drives the Company's high-quality development to a new level through high-performance governance.

Safeguarding Shareholders' Equity

The Company strictly implements securities regulatory requirements. In accordance with the *Articles of Association*, the *Rules of Procedure for Shareholders' Meetings*, and other relevant regulations, we convene shareholders' meetings in compliance with laws and regulations, standardize procedures for all stages of the meetings, and effectively safeguard the equity of minority shareholders.

The Company has maintained sound and standardized information disclosure management to effectively protect investors' right to know. In 2025, it revised a series of systems including the *Information Disclosure Management Measures*, the *Provisions on the Administration of Shareholding Changes of Directors and Senior Management*, and the *Detailed Rules for the Registration of Insiders*. The Company has continuously consolidated accountability for information disclosure, strengthened compliance and risk control throughout the entire information disclosure process, and kept improving the content and forms of information disclosure. Adhering to the bottom line of "truthfulness, accuracy, completeness, timeliness and fairness", the Company has received an A rating in the Shanghai Stock Exchange's information disclosure assessment for 12 consecutive years. Meanwhile, the Company has further improved its investor communication mechanism and enhanced interaction through multiple channels such as performance briefings and investor exchange meetings to respond to investor concerns in a timely manner. In 2025, the Company held more than 80 seminars and exchange meetings for domestic and overseas investors and 4 performance briefings, and disclosed 346 various announcements and circulars.

In 2025

Number of Shareholders' Meetings held

1 time

Number of proposals reviewed and passed

20 items

The Company has always regarded market value management as a long-term strategic management practice to enhance investment value and shareholder return capacity. It has advanced market value management in a standardized and orderly manner by systematically strengthening internal management mechanisms and adopting a comprehensive set of approaches. In 2025, the Company conducted seminars and special research on market value management for its listed controlled companies. Focusing on institutional innovation, pragmatic planning, systematic promotion and upgraded assessment, the Company has built a long-term mechanism for market value management. It formulated the market value management system, issued the valuation enhancement plan, released the market value management scheme, and improved the detailed assessment rules for market value management. Centered on institutional innovation, pragmatic planning, systematic promotion and upgraded assessment, the Company has promoted market value management in a standardized, regular and precise manner. In addition, the Company completed the 2024 annual dividend distribution and launched the 2025 interim dividend distribution for the first time. It steadily implemented the plan to repurchase some A-share shares of the Company with RMB 800 million to RMB 1.6 billion, as well as the plan to increase holdings of CRCC Industry shares with RMB 160 million to RMB 300 million. These efforts facilitated the effective implementation of the Action Plan for Quality Improvement, Efficiency Enhancement and Emphasis on Returns and the Valuation Enhancement Plan, promoted the balanced improvement of the Company's intrinsic value and market value, and actively safeguarded the legitimate rights and interests of shareholders and the long-term sustainable development of the Company.

CREC's 2024 annual general meeting of shareholders, the first A-share category shareholders' meeting of 2025, and the first H-share category shareholders' meeting of 2025

Case

Conducting a joint reverse roadshow on "Intelligent Construction + Emerging Businesses"

From November 20 to 21, 2025, CREC successfully held a joint reverse roadshow on "Intelligent Construction + Emerging Businesses" in Chengdu. This was done with its listed subsidiaries China Railway Hi-Tech Industry Co., Ltd. and China Railway High Speed Electrification Equipment Corporation Limited. The event attracted more than 30 investment institutions to participate in. Through on-site visits and discussions, it demonstrates CREC's core competitiveness in fields such as intelligent construction and high-end equipment manufacturing, and builds a bridge for market value management and communication with the capital market.

Joint reverse roadshow on "Intelligent Construction + Emerging Businesses"

- **"Class A"** for information disclosure by the Shanghai Stock Exchange for the 2024-2025 fiscal year (for **12** consecutive years)
- **"Best IR Hong Kong-Listed Company"** by New Fortune
- **"Tianma Award for Investor Relations Management of Listed Companies"** by Securities Times
- **"Best Practice in Investor Relations Management for Listed Companies"** honor by CAPCO
- CAPCO's **"2025 Outstanding Practice Cases for Earnings Briefings"**

Comprehensively Deepening Reforms

The Company fully implements the guiding principles of the Third and Fourth Plenary Sessions of the 20th Central Committee of the Communist Party of China, deeply carries out the campaign to deepen and upgrade the reform of state-owned enterprises, addresses development challenges, enhances development vitality and strengthens development advantages through reform, and strives to build a new type of modern state-owned enterprise that is innovation-leading, functionally distinctive, efficiently governed and full of vitality.

Highlight Data

- The Action Plan for Deepening and Enhancing Reforms was successfully concluded, with all **426** main tasks fully completed. Reform tasks at second-tier units, totaling **7,379** were also fully completed.
- An **"A" rating** was received in the SASAC' assessment of key tasks for the Deepening and Enhancement of Reform in Central Enterprises, moving up **14** places compared to the previous year.
- The "Three Systems" reform has been rated **"Grade 1"** by SASAC for two consecutive years.
- The study "Research on Pathways for Central Enterprises to Deepen Penetrative Supervision" was awarded the **First Prize** in the "2025 Outstanding Achievements in the Reform and Development of Chinese Enterprises" by the China Enterprise Reform and Development Society.

Deepening "Three Systems" Reform

Adhering to a grassroots-oriented and performance-oriented approach, we implemented the integrated requirements of "standardization, preferential treatment, and incentives", strengthened the linkage between total payroll and economic performance, and optimized the assessment system of "one sector, one policy; one enterprise, one policy". We comprehensively standardized the term system and contractual management of the Executive Management members. A total of 3,497 executive management members signed annual and term responsibility letters.

China Railway No.2 Engineering Group special meeting on incentive mechanism construction and cadre talent work

Building Core Competitive Entities

The Company has thoroughly implemented the strategy of "Supporting the Outstanding and Strengthening the Strong", fully advancing the development of "flagship enterprises", "specialized, refined, distinctive, and innovative enterprises", and "key third-tier companies". By strengthening resource allocation and innovating institutional mechanisms, we have comprehensively stimulated development momentum. At the same time, we have resolutely phased out outdated production capacity, intensified efforts to turn losses into profits and address financial deficits, and implemented categorized measures with targeted efforts, effectively improving development quality.

Top 20 China Railway Third-Level Engineering Companies

1. China Railway Construction Engineering Group Fourth Construction Co., Ltd.
2. China Railway Electrification Engineering Group First Engineering Co., Ltd.
3. China Railway No.4 Engineering Group Seventh Engineering Branch
4. China Railway No.4 Engineering Group Fourth Engineering Co., Ltd.
5. China Railway No.4 Engineering Group First Engineering Co., Ltd.
6. China Railway Construction Engineering Group Co., Ltd. North China Branch
7. China Railway No.4 Engineering Group Municipal Engineering Branch
8. China Railway No.4 Engineering Group Fourth Engineering Co., Ltd.
9. China Railway No.4 Engineering Group Eighth Engineering Branch
10. China Railway Construction Engineering Group Second Construction Co., Ltd.
11. China Railway No.4 Engineering Group Construction Engineering Co., Ltd.
12. China Railway First Group Xinyun Engineering Co., Ltd.
13. China Railway Construction Engineering Group Co., Ltd. Shenzhen Branch
14. China Railway Tunnel Group No. 2 Co., Ltd.
15. China Railway No.3 Engineering Group Construction and Installation Engineering Co., Ltd.
16. Zhengzhou Engineering Co., Ltd. of China Railway Seventh Group
17. Overseas Company of China Railway Seventh Group
18. China Railway Electrification Engineering Group Beijing Electrification Engineering Co, Ltd.
19. China Railway First Group Electrical Engineering Co., Ltd.
20. China Railway No.5 Engineering Group Second Engineering Co., Ltd.

Strengthening Comprehensive Business Management

The Company has continued to implement the "Three-Year Action Plan for Further Enhancing Comprehensive Business Management and Reducing Debt". We are deeply advancing the "Four Integrations" of finance, commerce, legal affairs, and procurement. This means the deep integration of financial centralization, commercial refinement, legal risk control, and systematic procurement. Financial centralization management has been fully rolled out. To date, over 1,200 financial centers have been established, serving nearly 20,000 accounting units. The treasury system has achieved interconnectivity with legal affairs, engineering management, and other systems. The supply chain system continues to be optimized. The cooperative model and support mechanisms for centralized material procurement are constantly improved. The proportion of centralized procurement for steel and cement by two-tier material and trade enterprises has steadily increased.

Finals of the CREC Youth Comprehensive Business Management Business Integration Competition and the 4th Youth Innovation and Efficiency Improvement Competition

Lawful and Compliant Operations

CREC rigorously implements all directives and requirements set forth by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) regarding the development of law-based central enterprises. We strive for world-class excellence in corporate legal management by continuously strengthening our corporate governance structure, enhancing our lawful and compliant operations, and fostering a robust corporate legal culture.

Internal Control and Compliance

The Company continuously reinforces its internal control and compliance management, fully leveraging the coordination role of the Leadership Group for Rule of Law, the Compliance Committee, and the Major Operational Risk Management and Control Committee. By advancing the development of legal affairs, compliance, internal control and risk management, the Company provides a solid organizational and institutional safeguard for the Company's lawful and compliant operations.

The Company formulated and implemented the *Plan on the Division of Annual Key Tasks for the Development of the Internal Control System and Supervision*, focusing on important areas, key business activities and core positions. This plan further clarifies internal control and supervision responsibilities, and promotes the deep integration of internal control requirements into the entire business process, ensuring that all control measures are effectively implemented and form a closed-loop management system.

Adhering to the principle of "business-oriented, targeted education," we closely align training with compliance risk points across various business areas and the specific demands of each position. We regularly conduct specialized training on system management and compliance management, in order to cultivate a highly skilled and professional legal talent pool. This effort injects solid professional momentum into the Company's high-quality development.

The Company actively cultivates a legal culture through meticulously organized campaigns including the "Eighth Five-Year Plan for Legal Awareness" and "Civil Code Publicity Month," integrating the principles of law-based governance into daily management.

CREC Legal and Compliance Training Session

In 2025

cumulative number of participants in special legal compliance training: over

56,900 persons

Risk Management

The Company rigorously implements the risk prevention and control requirements of SASAC. It standardizes the entire process of risk identification, investigation and response, focusing on establishing a long-term mechanism for risk management and resolutely strengthen the defense line against risks.

In 2025, the Company formulated and issued specialized management systems for asset transactions and post-investment evaluations, enhancing the risk prevention and control system in key areas and strengthening its risk response capabilities. It refined the risk identification, assessment and dynamic monitoring mechanisms, and conducted in-depth analysis on five major operational risks: real estate investment, cash flow, infrastructure investment, international operations, and debt. Through dynamic monitoring, risk alerts and closed-loop management, the Company achieved early identification, early warning and early resolution of risks, ensuring the stable operation of the enterprise.

CREC maintains stringent oversight of overseas operational risks by deepening specialized governance, and intensifying supervision of key international projects and major risks. In August 2025, the Company conducted special inspections across six critical projects in three countries to identify and rectify potential risks. At the same time, the Company bolstered its overseas risk management talent pool. Through regular, targeted training initiatives, we consistently elevate our professional capacity to identify and mitigate risks in international operations.

Information Security and Privacy Protection

In strict compliance with *Cybersecurity Law of the People's Republic of China*, *Data Security Law of the People's Republic of China*, and *Personal Information Protection Law of the People's Republic of China*, the Company prioritizes both data protection and rational utilization. We continually refine our data asset management framework and cybersecurity systems through internal regulations such as the *CREC Data Asset Management Regulations* and *CREC Network & Information Security Management Regulations*, thereby establishing a robust framework for data security and customer privacy protection while ensuring secure, efficient and stable operation of information systems.

Data security and privacy protection across the full lifecycle

The Company has established a data security control mechanism covering the entire process of information collection, storage, transmission, use and destruction. The Company continuously strengthens the compliance of information collection authorization, the safety of data storage encryption, the security of transmission channels and the integrity of destruction processes, with special protection measures implemented for sensitive personal information such as names, ID numbers, and mobile phone numbers. In 2025, the Company conducted in-depth specialized investigations into data leakage risks focusing on high-risk areas, comprehensively enhancing the security defense level of business data and personal information. In parallel, the Company reinforces endpoint security protection through the coordinated deployment of antivirus software, strengthening this critical front-line defense.

Integrated domestic-international security system development

To ensure efficient, stable and secure cross-border data transmission, the Company systematically advances the development of an internal network transmission system for cross-border data. This includes coordinating the deployment of core application systems, network upgrades and renovations, and full-link security enhancements. These efforts have established a comprehensive data security and trade secret protection framework covering both domestic and international operations. This not only provides strong support for the digital development of cross-border businesses but also serves as a concrete action contributing to the national strategy of the "Belt and Road Initiative".

Company-wide cybersecurity awareness and capacity enhancement

The Company places great emphasis on enhancing the information security awareness and practical capabilities of all employees, regularly conducting security awareness education and training. In 2025, we organized a Cybersecurity Awareness Week campaign under the theme "Cybersecurity for the People, Cybersecurity by the People." Adopting an "online-led, offline-coordinated" approach, we promoted cybersecurity knowledge through diverse formats such as knowledge competitions, banner campaigns, and scenario simulation drills. This reinforced the consensus that "everyone is responsible for cybersecurity," strengthening the Company's cybersecurity defense.

In 2025

there were

0 incidents related to the infringement of customer privacy and information security

CREC Cybersecurity Awareness Week Activities

Upholding Business Ethics

The Company strictly complies with all applicable domestic and international laws, regulations and regulatory requirements concerning anti-monopoly and anti-unfair competition. We remain firmly committed to lawful and compliant operations with integrity, and we maintain a zero-tolerance policy towards violations of business ethics such as commercial bribery, corruption and unfair competition, in order to uphold a fair and orderly market.

Anti-Commercial Bribery and Anti-Corruption

We have established a comprehensive "six-in-one" oversight framework integrating Party Committee inspections, Discipline Commission supervision, financial monitoring, internal audits, compliance reviews, and employee democratic oversight. This closed-loop system features clear accountability and efficient operations, collectively advancing the long-term mechanisms of "deterring, preventing and eliminating corruption."

Strengthening institutional frameworks

The Company continuously improves its systems and procedures concerning anti-commercial bribery and anti-corruption. We rigorously implement a series of internal regulations, including the *Implementation Plan for Building an Institutional Framework That Prevents Misconduct of CREC*, the *Integrity Commitment System for Leading Personnel of China Railway Group Limited (Trial)*, the *Implementation Measures for Establishing a Comprehensive Oversight Framework for Conduct, Integrity and Anti-Corruption of CREC*. These clearly define the ethical standards and codes of conduct for both the Company's leader and all employees, rigorously regulating the exercise of power. In the same time, the Company rigorously investigates and handles cases related to corruption, using these cases as a basis to promote reform and improve governance. This continuous effort fosters a clean and upright business environment.

Deepening targeted governance in key areas

For critical domains like engineering projects and bidding processes, the Company develops and refines targeted governance plans, ensuring accountability across all levels. By identifying the prominent contradictions and common problems existing in related fields, a list of issues is established. The management weaknesses and institutional gaps are accurately identified, and comprehensive rectification and improvement measures are systematically implemented.

In full compliance with SASAC's 2025 Cross-Border Corruption Governance Guidelines, the Company organized a leadership group meeting to report case dispositions and take key initiatives. Focusing on the problem rectification, the Company proactively supervises relevant departments and affiliated entities in the implementation of corrective measures. Targeted on-site assessments and supervisory reviews have been carried out at overseas projects to strengthen governance against cross-border corruption and obtain continuous progress in this area.

Strengthening whistleblowing and rights protection mechanisms

CREC has implemented policies including the *Implementation Measures for Discipline Inspection Organizations to Handle Complaints and Reports and to Supervise Case Management* and the *Implementation Measures for the Complaint Reporting Responsibility System*. These frameworks ensure that reporting channels remain consistently accessible, while all cases are addressed in strict accordance with applicable regulations and disciplinary standards. This approach ensures the effective exercise of supervisory rights by all employees and stakeholders. All subsidiaries of the Company have established disciplinary inspection departments to strengthen the management of anti-corruption complaints and reporting. Strict measures are in place to protect the personal privacy and physical safety of whistleblowers, and any breaches of confidentiality resulting from negligence or misconduct are subject to rigorous accountability and disciplinary action. In 2025, local judicial authorities concluded 15 corruption cases involving management personnel of affiliated enterprises, with the individuals concerned held criminally liable in accordance with the law.

Fostering an integrity-driven corporate culture

The Company strengthens its anti-bribery and anti-corruption compliance culture through diverse initiatives. These include conducting targeted integrity education programs, producing educational videos such as *Confessions and Warnings* and *Straying into Corruption: A Lasting Alarm*, and establishing integrity education centers. Through these ongoing efforts, the Company fosters a culture where ethical conduct is deeply embedded in organizational values and employee mindset.

In 2025, the Company continued to improve its regular and long-term education mechanisms. Party organizations at all levels carried out 11,029 sessions of education on the Party Constitution, Party regulations and disciplinary rules, and 2,447 sessions of warning education, reaching over 400,000 Party members and cadres. These efforts enhanced all staff's awareness of integrity and compliance as well as their professional competence in performing duties.

China Railway First Group built the "Breeze Along the Road" Integrity Culture Base in Xi'an to support the development of an "Integrity-driven CREC"

Anti-Unfair Competition

The Company consistently integrates the principle of fair competition throughout its entire production and operational processes, resolutely eliminating monopolistic practices, vicious competition, rent-seeking violations, and other behaviors that undermine the market environment. It effectively transforms compliance requirements into binding constraints that standardize market conduct. The Company actively supports the "anti-involution" initiative jointly launched by enterprises in the domestic construction industry. We firmly reject "involution-style" vicious competition and improper project acquisition through unethical means such as bribery. By consciously upholding a fair and orderly market competition environment, we contribute to the development of a healthy and sustainable industry ecosystem.

In 2025

the Company had

0 lawsuits or major administrative penalties arising from unfair competition practices.

Low-Carbon Practices for Lucid Waters and Lush Mountains

02

CREC thoroughly implements the philosophy that "lucid waters and lush mountains are invaluable assets", continuously pursuing a high-quality development path prioritizing ecology, green initiatives, and low-carbon growth. With carbon peaking and carbon neutrality as the overarching drivers, CREC synergistically advances carbon reduction, pollution control, ecological expansion, and economic growth, striving to create a harmonious coexistence between humanity and nature.

Our Actions

Key Performance

- Total GHG emissions (Scope 1 + Scope 2)

  14,154,000

  tons of CO_2 equivalent

- GHG emission intensity (Scope 1 + Scope 2)

  0.1319

  tons of CO_2 equivalent/RMB 10,000

- Total energy consumption

  3,944,602

  tons of standard coal equivalent

- Environmental protection investment

  RMB **1,938** million

- Green technology R&D investment

  RMB **196** million

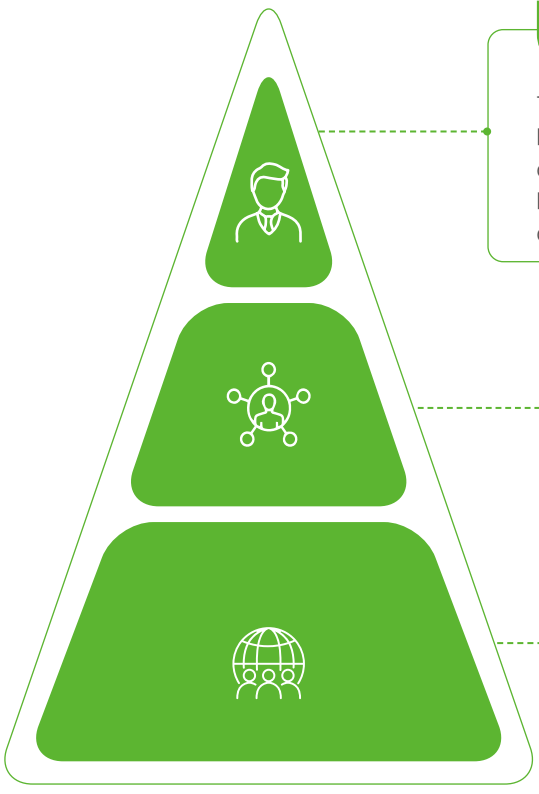

6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND

Responding to Climate Change

Guided by the *United Nations Framework Convention on Climate Change* (UNFCCC) and the *Paris Agreement*, CREC fully aligns with the decisions and arrangements of the CPC Central Committee and the State Council on carbon peaking and carbon neutrality. The Company systematically assesses and scientifically addresses climate-related risks and opportunities, continuously enhancing its climate resilience. In doing so, the Company is committed to contributing its expertise to drive green and low-carbon development within the industry and to global climate governance efforts.

Governance

The Company fully implements the *CREC Guiding Opinions on Accelerating Green Development and Promoting the Construction of a Beautiful China*. It has established a Leading Group for Climate Change Response and Energy Conservation & Emission Reduction, and developed a collaborative and efficient working system with clearly defined responsibilities and targets. Through dedicated initiatives, the Company advances key tasks related to the Beautiful China vision, ensuring solid progress and tangible outcomes across all areas.



Leading Group for Climate Change Response and Energy Conservation & Emission Reduction

The Chairman serves as Group Leader, the President serves as Deputy Group Leader, the Vice President in charge of energy conservation and environmental protection serves as Executive Deputy Group Leader, and heads of relevant headquarters departments serve as members.

Office (Department of Safety, Quality and Environmental Supervision)

The head of the Department of Safety, Quality, Environmental Protection and Supervision concurrently serves as Director.

"Dual Carbon" R&D Center and Green/Low-Carbon Departments & Management

Including the headquarters, Infrastructure Research Institute, Planning and Design Institute, Construction Management Centre, Product Equipment Centre, Building Materials Technology Centre, Urban Operations Centre, and Industrial Development Centre.

CREC climate change governance structure

- Responsible for organising, leading, and coordinating the Company's climate change, energy conservation and emission reduction-related work
- Responsible for formulating the Company's climate change, energy conservation and emission reduction work plans and overall deployment
- Responsible for reviewing major matters related to climate change, energy conservation and emission reduction
- Responsible for assessing climate change, energy conservation and emission reduction-related work, commending advanced collectives and individuals, and holding accountable major violations

- Responsible for the daily organization, coordination, and implementation of the Leading Group for Climate Change Response and Energy Conservation & Emission Reduction

- Provide professional support to the Leading Group for policy research, technological breakthroughs, and achievement transformation

Strategy

The Company closely monitors national policy trends related to its dual-carbon goals and climate change. It actively tracks extreme weather events in its operating areas and routinely identifies climate-related risks and opportunities through industry benchmarking and consultations with internal and external experts. Based on these assessments, the Company systematically evaluates potential impacts on its business model and value chain, developing forward-looking response measures. At the same time, it rigorously implements the *Carbon Peaking Action Plan of China Railway Group Limited*, setting binding targets and strengthening statistical monitoring and evaluation of energy conservation and environmental protection efforts with clear rewards and penalties. Through strict supervision at all levels, the Company ensures responsibilities are fulfilled and results are achieved, driving the execution of its climate strategy and advancing its green and low-carbon transition.

Climate change risk identification results

Risk category	Risk factor	Risk description	Impact on business model
Physical risk	Acute risk	Increased frequency and severity of extreme weather events (e.g., typhoons, extreme precipitation, blizzards) may lead to construction site shutdowns, temporary facility damage, equipment failure, casualties, and project delays	• Project schedule delays and increased contract default risks
	Chronic risk	Altered rainfall patterns and extreme climate variations, such as prolonged droughts, frequent regional floods, and permafrost degradation, impact construction conditions and geological stability	• Shortened construction windows for plateau, western, and coastal projects • Increased difficulty in foundation construction in certain regions
Transition risk	Policy and regulatory risks	Carbon pricing increases, mandatory carbon quota allocation, stricter green building standards, and inclusion of construction carbon emissions in regulatory oversight	• Traditional high-energy-consumption construction models face constraints, while the proportion of green low-carbon projects rises
	Technical risk	High initial investment in low-carbon transition technologies and challenges in technology adaptation	• Increased R&D investment and equipment renewal expenditures
	Market risk	Sustained price increases in raw materials due to carbon cost increases, resource constraints, or green premiums	• Increased difficulty in cost control • Project profit pressure
	Reputation risk	Heightened stakeholder focus on ESG performance may trigger negative public sentiment, impacting corporate image and financing capacity	• ESG rating downgrades may prompt climate-risk-averse investors to reduce or withdraw investments

Identification of climate risks and opportunities

Guided by Part D of the HKEX *ESG Reporting Guide* and the *Implementation Guidance for Climate-related Disclosures,* the Company applies scenario analysis over short-, medium-, and long-term timeframes. To systematically identify climate-related risks and opportunities, it assesses factors including their probability, duration of impact, and financial significance, ensuring alignment with its core business operations and development.

Impact on value chain	Expected impact timeframe	Potential financial impact	Response measures
• Construction material transportation disruptions and supply chain delays • Reduced subcontractor performance capacity • Heightened post-disaster restoration costs	Short to medium term	Revenues and costs	• Establish extreme weather early warning mechanisms • Enhance investment in on-site disaster prevention facilities • Procure construction all risks insurance and business interruption insurance
• Rising costs for foundation treatment, slope support, and related processes • Long-term precipitation increases landslide risks on slopes	Medium to long term	Costs	• Conduct climate resilience design assessments • Strengthen pre-project climate risk surveys • Expand business areas such as urban regeneration focusing on "ecological restoration and urban repair", sponge city development, and comprehensive coastal zone management.
• Real-time carbon emission monitoring required during construction processes • Carbon footprint assessment must be integrated at the design stage	Medium term	Costs	• Establish corporate-level carbon emission monitoring platforms • Implement green construction standards • Participate in carbon market pilots to explore carbon asset operation methodologies
• Supply chains require simultaneous upgrades of equipment and materials • Technical personnel need retraining for transition • Prolonged technical validation cycle in the pre-project phase	Short to medium term	Costs	• Establish a green construction innovation center • Collaborate with universities on low-carbon construction technology R&D • Implement demonstration projects to promote proved technical pathways
• Heightened concentration of upstream material suppliers • Need for enhanced supply capacity of green building materials	Short to medium term	Costs	• Implement centralized procurement and strategic partnerships • Increase the proportion of recycled aggregates and solid waste utilization • Optimize design to reduce material consumption
• Projects require public disclosure of environmental performance data	Short to medium term	Financing opportunities	• Publish annual ESG reports • Establish robust ESG performance evaluation systems • Enhance communication with media and communities

Climate change opportunity identification results

Opportunity type	Climate-related opportunities	Impact on business model	Expected impact timeframe	Potential financial impact	Response measures
Resource efficiency	Recycling and reuse of construction waste (e.g., concrete, steel reinforcement, excavated soil)	Promote green construction and circular economy models	Short to medium term	Costs & expenditures	• Establish a construction waste classification and resource recovery system • Promote recycled aggregate applications in key projects
	Adopt higher-efficiency production processes (e.g., BIM collaboration)	Implement standardized and industrialized construction to shorten project timelines, reduce energy consumption and labor dependency	Short to medium term	Costs	• Develop a digital project management platform • Advance integrated "design-construction-manufacturing" models
Energy sources	Utilize low-carbon energy sources (e.g., on-site photovoltaic power supply, electric construction machinery, pilot hydrogen energy equipment)	Promote green construction site development and establish low-carbon benchmark projects	Medium term	Costs	• Adopt photovoltaic microgrids • Procure electric equipment and participating in fossil-to-electric conversion demonstration projects
Market	Enter new markets (e.g., green infrastructure, near-zero carbon parks, ecological restoration projects, climate-resilient city initiatives)	Expand high-value-added business domains and transition from traditional construction to "green solution provider"	Short to medium term	Revenues	• Undertake projects such as national ecological demonstration zones, sponge cities, and wetland restoration • Advance R&D and application of innovative building materials
Resilience	Participate in renewable energy projects and implement energy-saving measures (e.g., construct wind power, photovoltaic and energy storage power stations, establish green offices and production bases)	Expand renewable energy engineering business segments to enhance corporate carbon performance	Short to medium term	Revenues	• Serve the construction of national clean energy bases • Build an industry-leading integrated service provider for offshore wind power construction and a specialized marine equipment manufacturer

Financial impact analysis of climate risks and opportunities

Physical risks

The Company routinely monitors and assesses the potential chain-wide impacts of extreme weather events on production and operations. Through measures such as enhancing meteorological warning mechanisms, conducting emergency drills for extreme weather, and optimizing construction organization plans, the Company has comprehensively improved its capabilities in responding to and managing climate-related physical risks. Preventive expenditures related to on-site protection and equipment reinforcement are properly accounted for in corresponding project management costs. During the reporting period, the Company did not experience any major work stoppages, asset impairment losses, or other incidents caused by extreme weather events. The related risks do not have a material impact on the Company's financial data for the current or next reporting period. In the medium to long term, to address persistent physical risks arising from rising global average temperatures, the Company will steadily increase investments in protective upgrades and operational maintenance for key production facilities and core operational processes.

Transition risks

The Company is steadily advancing the green transformation and upgrade of low-carbon construction. In 2025, specialized investments focused on areas such as high-energy-efficiency equipment renewal & replacement, pilot promotion of electric construction machinery, large-scale application of low-carbon concrete, and construction of intelligent carbon emission monitoring systems. Related expenditures are properly recorded in corresponding project operating costs and have not adversely affected the Company's overall operating performance. In the medium to long term, the Company will continue to increase capital investments in the research and application of low-carbon construction techniques, green upgrades of core equipment, and innovation in low-carbon products and services, steadily hedging against potential risks related to the low-carbon transition.

Climate opportunities

The Company deeply leverages major development opportunities brought by global low-carbon transition and China's dual-carbon strategy. On one hand, it continuously enhances construction productivity and resource recycling levels through large-scale promotion of green businesses such as prefabricated buildings, construction waste recycling, and renewable energy infrastructure development, thereby expanding growth space for green businesses. On the other hand, by popularizing energy-efficient equipment and piloting distributed photovoltaic power supply at construction sites, the Company effectively reduces energy consumption and operational costs. These initiatives not only help control long-term operating expenditures but also drive growth in green orders, solidifying the Company's sustainable competitive advantages.

Strategy and measures

The Company has established a robust climate risk emergency management system by formulating and issuing the *Emergency Response Plan for Safety, Quality, Ecological Environment, and Disaster Accidents (Incidents)*. This plan provides comprehensive guidelines for the entire process of hazard identification, risk assessment, prevention and early warning, emergency response, post-incident management, support mechanisms, and training exercises related to climate-induced disasters and ecological risks. It establishes a closed-loop management mechanism for extreme weather and climate disaster response, significantly enhancing the Company's capabilities in climate risk emergency handling and resilience-based prevention and control. At the same time, the Company actively expands climate-resilient green business sectors such as ecological restoration and urban regeneration ("dual urban renewal"), sponge city development, and comprehensive coastal zone management. Leveraging core engineering capabilities, it empowers cities and regions to enhance climate adaptation capacities, proactively addressing prominent environmental challenges including urban flooding, ecological degradation, and coastal erosion induced by climate change. While strengthening ecological security barriers, the Company continuously broadens growth pathways for green and low-carbon businesses.

The Company continuously improves its top-level design and institutional framework for green and low-carbon development. It has formulated and issued the *CREC Guidelines on Accelerating Green Development to Promote the Construction of a Beautiful China*, the *CREC Carbon Peaking Action Plan*, the *Energy Conservation and Emissions Reduction Supervision and Management Measures*, and the *14th Five-Year Plan for Energy Conservation and Emissions Reduction*. These documents systematically deploy green and low-carbon development pathways, focusing on core business scenarios while synergistically utilizing green financial instruments, coordinating key initiatives including efficient resource recycling, clean energy substitution, and operational energy efficiency improvement.

The Company has fully implemented the "Energy Conservation and Ecological Environmental Protection Statistical System" (MRV System), which integrates core functions such as energy conservation, environmental protection and low-carbon reporting, green development evaluation, and report management. For the first time, this system enables direct online reporting from hundreds of tier-3 subsidiaries. Utilizing this system, the Company achieves online aggregation, intelligent analysis, dynamic monitoring, and trend forecasting for energy consumption and carbon emission data. This substantially improves data completeness, timeliness, and accuracy, effectively advancing the Company's energy and carbon management toward a fully digitalized process characterized by "monitorability, traceability, and assessability".

The Company continuously strengthens the development of green and low-carbon talent teams and enhances company-wide capabilities. It regularly conducts specialized training on environmental protection and low-carbon operations, consistently reinforcing green development awareness across all employees and improving professional competencies throughout the environmental and low-carbon work chain. In low-carbon technology innovation, the Company leverages the CREC Infrastructure Green and Low-Carbon Research Center platform to conduct in-depth fundamental research on carbon accounting methodologies and low-carbon transition technological pathways. It continuously refines green construction standards and comprehensively strengthens whole-life-cycle energy conservation and carbon reduction assessment and control capabilities for engineering projects, providing solid technical support for the Company's high-quality green and low-carbon development.

Case

Establishing an "Accounting -Evaluation" System for Carbon Emissions from Metro Construction to Facilitate Green Transformation and Upgrading

China Railway (Shanghai) Investment conducted research on an "accounting -evaluation" system for carbon emissions to address the high energy consumption in metro construction. Through policy analysis and field surveys covering diverse conditions and construction techniques, the project team accurately identified major emission sources, and established a carbon emission factor database for metro construction, an accounting model and an evaluation index system, enabling precise carbon measurement and tiered management of carbon emissions. After the implementation of this system, individual projects are projected to reduce carbon emissions by over 15%, significantly enhancing green construction standards.

Case

"Zero Emissions + Intelligent Driving": Electric Flatbed Trucks of China Railway First Group Co., Ltd. (CRFG) Empower Green Metro Construction

To tackle the high energy consumption and emissions in metro tunnel construction, CRFG independently developed intelligent electric flatbed vehicles for transportation. Utilizing lithium iron phosphate batteries and a 48V low-voltage power supply system, the vehicles achieve zero exhaust emissions and low-noise operation, fundamentally improving the tunnel construction environment. Featuring dual battery packs and an intelligent power management system, the vehicles achieve a comprehensive energy saving rate of 26%. The integrated PLC intelligent control technology enables real-time operational monitoring and automatic fault alerts, effectively enhancing equipment reliability and construction efficiency. The equipment has been deployed at scale in metro projects across Nanjing, Suzhou, Shanghai and other cities, supporting the construction of over 300 kilometers of track beds while reducing CO_2 emissions by approximately 900 tons.

comprehensive energy saving rate of

26%

supporting the construction of over

300 kilometers of track beds

while reducing CO_2 emissions by approximately

900 tons

Case

Green Finance Empowerment: Leveraging Low-Carbon Technology Innovation to Unlock New International Project Opportunities

The Company actively explores synergies between green finance and low-carbon technologies, using green credit instruments to empower energy-saving and low-carbon technology innovation. Through the Green and Low-Carbon Infrastructure Research Center of CREC, the Company conducted in-depth exchanges with Asian Development Bank (ADB) and Azerbaijan Railways regarding the electrification project of Bilajari-Yalama and Baku–Boyuk Kesik railways, systematically showcasing CREC's technical expertise and engineering experience in railway electrification and energy-efficient as well as low-carbon construction.

The project actively sought a special green and low-carbon loan from Asian Development Bank. Guided by internationally recognized green finance standards, the project aimed to precisely align low-carbon technological solutions with financing mechanisms. This cooperation strengthened the Company's green and low-carbon information disclosure while enhancing sustainable competitiveness in line with international standards.

Risk and Opportunity Management

The Company continuously monitors the impact of climate change on operations, integrating climate-related risks into its risk management framework.

Climate risk and opportunity management process:

Prioritization of risks and opportunities	Based on identification results, comprehensive assessments of climate-related risks and opportunities are conducted across two dimensions: "likelihood of occurrence" and "potential impact on operations, finances, and strategy". Taking into account industry characteristics and project type variations, and supplemented by external expert input, risks and opportunities are categorized and prioritized to define key focus areas.
Climate resilience assessment	Building on prioritization results, the Company evaluates the adaptability of existing strategies and business models under various climate scenarios, identifying critical vulnerabilities and growth potential. By incorporating climate change factors into medium-to-long-term development planning, the Company dynamically adjusts business development layouts and project management models, continuously enhancing corporate climate resilience.
Identification of financial impacts of material risks and opportunities	For high-priority risks and opportunities, qualitative assessment and quantitative analysis are conducted to evaluate potential financial impacts under different time horizons, with particular focus on critical financial matters such as major project budgets and insurance expenditures, thereby providing data-driven decision support.
Development and implementation of response strategies and measures	Based on assessment results, differentiated response strategies and action plans are formulated, integrating relevant measures into the entire project lifecycle management from preliminary planning to design, construction, operation, and maintenance.

Indicators and Targets

The Company fully implements the national dual-carbon strategy by conducting comprehensive carbon inventories through a combination of sampling audits and self-reported data from business units. Based on these findings, we continuously strengthen our energy conservation and emission reduction management system by setting scientific quantitative indicators, phased targets, and clear pathways for carbon reduction.

Short-term targets (by 2026)

Achieve a 3.9% reduction in CO_2 emission intensity by 2026 compared to the 2025 baseline.

Medium-term targets (by 2027)

Each year, the Company selects 100 green construction technology demonstration projects to promote the research, development, and application of energy-saving and low-carbon technologies, establishing replicable emission reduction models. The Company fully implements a "dual-control" mechanism for total carbon emissions and emission intensity, incorporating carbon management indicators into corporate performance evaluation systems. This approach drives the deep integration and coordinated advancement of green transformation and high-quality development.

In 2025, the Company's CO_2 emissions per RMB 10,000 of revenue (at comparable prices) were 0.13 tons of CO_2 equivalent, a decrease of 5.2% compared to the previous year. Compared with the "14th Five-Year Plan" baseline of 0.16 tonnes of CO_2e per RMB 10,000 of revenue, the cumulative reduction reached 18.2%. The annual reduction rate exceeded SASAC's 2025 target of 3.89% CO_2 emission reduction for central enterprises. The cumulative reduction rate significantly surpassed SASAC's "14th Five-Year Plan" overall target of 18% CO_2 emission reduction for central SOEs, demonstrating remarkable achievements in green and low-carbon development.

Indicator	2025	Unit
Total GHG emissions (Scope 1 + Scope 2)	14,154,000	tons of CO_2 equivalent
Scope 1 GHG emissions	6,120,704	tons of CO_2 equivalent
Scope 2 GHG emissions	8,033,268	tons of CO_2 equivalent
Investment in GHG reduction funds	661.50	million RMB

The Company continues to enhance the Scope 3 GHG accounting, monitoring, and management system, progressively integrating it into the overall GHG emissions management framework. Given the extensive upstream and downstream chains and broad coverage of engineering projects, complete statistical conditions are currently unavailable for certain Scope 3 categories. After comprehensive assessment and in accordance with the relevant exemption clauses of the HKEX's *ESG Reporting Guide*, Scope 3 GHG emissions data will not be disclosed for the 2025 reporting period. The Company will steadily advance related statistical accounting and disclosure efforts in subsequent phases.

Strengthening Environmental Management

CREC actively implements the green development philosophy, and has established a comprehensive environmental management system that spans all organizational levels, the entire value chain, and the full lifecycle of its operations. The Company reinforces closed-loop management of environmental risks and integrates ecological and environmental protection requirements throughout all aspects of its production, operations, and project development processes. Through systematic green management measures, the Company has achieved a synergistic balance between high-quality development and ecological conservation.

Environmental Management System

The Company strictly complies with applicable laws and regulations, including the *Environmental Protection Law of the People's Republic of China* and the *Regulations on the Administration of Environmental Protection for Construction Projects*. It has established an environmental management system covering the entire lifecycle from project planning and design, to construction, and operation and maintenance, while implementing a management system characterized by centralized leadership, tiered accountability, full employee participation, and closed-loop control. The Company has developed a robust ecological and environmental monitoring and supervision system, conducting systematic identification of environmental factors and risk assessments for its on-going construction projects and operational sites. It strengthens the pollution control in all stages of production and operations, and incorporates the compliant discharge targets for both hazardous and non-hazardous waste into its routine management. In addition, the Company has established and continuously improved the environmental performance evaluation, reward, and accountability mechanism, mandating that environmental performance be rigorously incorporated into project performance assessments and that the environmental responsibility be implemented at all levels. The Company has obtained ISO 14001 Environmental Management System certification, with eight subsidiaries recognized as national-level Green Factories. In 2025, the Company's environmental protection investment reached RMB 1.938 billion, demonstrating strong and effective environmental management performance.

Environmental Risk Management

The Company consistently adheres to the principles of "giving priority to prevention while combining prevention with treatment and source management" and has established a comprehensive environmental risk management system that spans the entire business chain and full project lifecycle to proactively prevent and effectively respond to various ecological and environmental risk incidents. The Company strictly implements the environmental impact assessment system for construction projects, ensuring rigorous environmental compliance review prior to project commencement. It continuously improves a normalized, closed-loop mechanism for identifying and remediating ecological and environmental risks, strengthening risk prevention and control at an early stage. The Company reinforces the responsibility for ecological and environmental risk management at all levels and systematically identifies environmentally sensitive factors in project regions and river basins. It places particular focus on the seven major river systems, including the Yangtze River and the Yellow River, strengthening targeted environmental risk prevention and control in key areas such as wastewater treatment, industrial production, and non-coal mining operations. The Company has established a comprehensive emergency response system for environmental incidents, covering typical scenarios such as major pollution source leaks, hazardous waste disposal accidents, and water contamination events. The system clearly defines the emergency organizational structure, response procedures, information reporting mechanisms, and resource assurance measures, forming a full-process closed-loop emergency response framework. The Company regularly organizes specialized environmental emergency drills and skills training programs, continuously enhancing frontline personnel's capabilities for risk identification and practical emergency response.

During the reporting period, the Company did not experience any environmental emergencies, did not incur any significant administrative penalties from environmental authorities for environmental violations, and was not subject to any related criminal liability. Overall environmental risk remained under control.

Case — **Identifying Root Causes of Hazards and Strengthening Environmental Safeguards**

For its National Highway 109 New Line Expressway Project, China Railway Investment Group advanced its efforts in environmental safety hazard identification and control, established a closed-loop mechanism of "identification-filing-correction-closure, and implemented the system of patrol inspection and hazard identification for key positions. Runoff collection systems, emergency containment ponds, and crash barriers were installed in ecologically sensitive waterway sections, supported by dynamic monitoring through the control center. An emergency response system led by the General Manager was established, forming a full-process risk control model of "front-loaded hazard identification, follow-up engineering controls, and underpinning emergency preparedness."

Case

Establishing a Tiered Response Mechanism to Comprehensively Enhance Response Capabilities for Environmental Emergencies

China Railway No.2 Engineering Group has formulated and issued the Comprehensive Emergency Response Plan for Safety, Quality, Ecological Environment and Disaster Incidents (Events) to ensure the standardize and efficient handling of safety, quality, environmental and disaster-related emergencies, and to enhance overall emergency response capability in line with corporate and project conditions. The Company systematically conducts ecological and environmental risk analysis and assessment, clearly defining core principles and operational requirements for emergency management. At the same time, the Company has established dedicated emergency response organizational structures, clarifying responsibilities across all levels and positions and reinforcing accountability for emergency management. On this basis, it has scientifically defined graded emergency response levels, standardize full-process response procedures, detailed requirements for emergency handling and post-incident recovery, and comprehensively strengthened emergency support measures, ensuring closed-loop, efficient operation across the entire emergency response chain.

Environmental Training and Awareness Promotion

The Company has established a comprehensive, multi-tiered, and normalized training and awareness promotion system for ecological and environmental protection, covering the personnel at all levels, including management and frontline personnel. With a focus on key topics such as environmental laws and regulations, energy conservation and carbon reduction expertise, and advanced green construction technologies, the Company regularly organizes specialized training programs and policy communication activities to comprehensively enhance employees' professional capabilities and performance in fulfilling environmental responsibilities. Aligning with key events such as the National Energy Conservation Publicity Week and National Low-Carbon Day, all affiliated units widely promote the green development philosophy to foster deep-rooted awareness of environmental protection and low-carbon development through a variety of online and offline approaches, including thematic training sessions, knowledge competitions, thematic awareness campaigns, signing initiatives, and low-carbon experience activities.

China Railway First Group launched the publicity campaign themed "Energy Conservation & Efficiency Enhancement, Innovation-led Renewal".

Environmental Awareness Campaign of China Railway No. 9 Group through Training Sessions and Promotional Posters

Reducing Pollutant Emissions

CREC strictly complies with national laws and regulations, including the *Air Pollution Prevention and Control Law*, the *Law on the Prevention and Control of Water Pollution*, and the *Law on the Prevention and Control of Environmental Pollution by Solid Waste*. The Company has issued the *Special Action Plan for Environmental Protection Enhancement, Inspection, and Rectification of CREC*, along with a series of dedicated institutional documents covering construction dust control, and construction waste disposal, continuously improving its full-process pollution discharge management system. To reduce the release of major pollutants such as exhaust gas, wastewater, solid waste, and noise, the Company has optimized its technical pathways, strengthened the operation of facilities, and promoted green construction projects, as part of its efforts to reduce the environmental impact of its production and operations.

Air Emissions Management

The Company's air emissions primarily come from construction and production activities, including boiler combustion, steel structure processing, sandblasting and grinding, and coating and spraying operations. The main pollutants involved include particulate matter (smoke dust), nitrogen oxides (NO_x), and volatile organic compounds (VOCs).

The Company adheres to the principles of "source reduction, process control, and end-of-pipe treatment", and systematically advances the comprehensive treatment of air emissions. At the source control stage, measures such as optimizing the capacity structure and implementing low-NO_x retrofits for gas-fired boilers are adopted to effectively reduce carbon dioxide and nitrogen oxide emissions. For particulate matter (smoke and dust), measures including covering, water spraying, installation of dust removal equipment, and enclosed operations are implemented to effectively reduce dust generated during transportation, storage, construction, and production processes. For VOCs management, the Company installs activated carbon systems and paint mist filtration systems on production lines to continuously improve VOCs collection and treatment efficiency, thereby effectively reducing air emissions.

In 2025

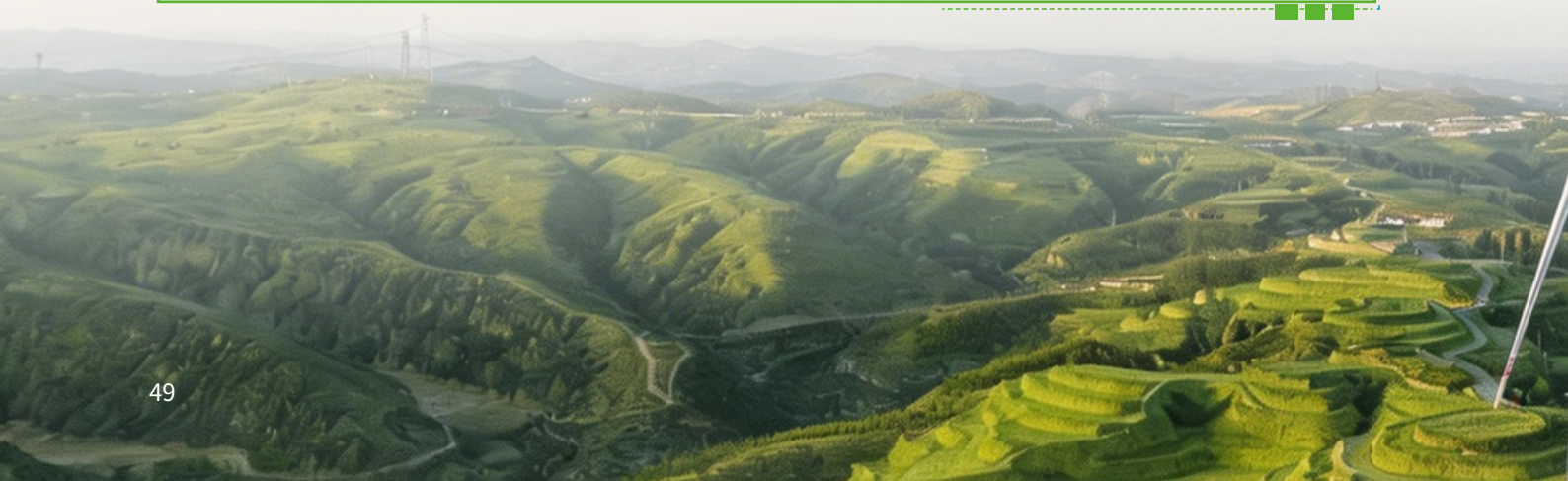
Air emissions
51.56 tons

Sulfur dioxide (SO_2) emissions
0.55 tons

Nitrogen oxide (NO_X) emissions
5.33 tons

Volatile organic compound (VOCs) emissions
11.66 tons

Particulate matter (smoke and dust) emissions
34.01 tons



Welding fume purifiers are installed during the rebar cage welding and fabrication processes of Xiong'an-Shangqiu High-Speed Railway project of China Railway Sixth Group

Case

Full-chain Control from Source to End: China Railway Tunnel Group Achieves Coordinated Reduction of Exhaust Emissions and Dust

China Railway Tunnel Group continued to reduce exhaust emissions from construction machinery by phasing out outdated, high-energy-consumption equipment and enhancing maintenance to optimize engine performance, thereby reducing emissions at source. For dust control, it extensively implemented comprehensive measures including fully enclosed mixing stations, welding fume purifiers, intelligent mist cannons, and enclosure spray systems, effectively suppressing dust from construction. Notably, the prevention system that integrates "spraying + sprinkling + vehicle washing" was applied to multiple projects, reducing the average particulate matter concentration at the boundaries by approximately 65%, significantly improving regional air quality.

Significant Reduction of Particulate Matter Concentration at the Boundary by China Railway Tunnel Group through an Intelligent Mist Cannon

Wastewater Management

The Company strictly implements a full-process control mechanism characterized by "rainwater and wastewater diversion, clean and contaminated stream separation, classified collection, graded treatment, and recycling," integrating wastewater management throughout the entire construction and production process. Construction sites are fully equipped with tertiary sedimentation systems, ensuring that production wastewater is treated to meet the discharge standards or is recycled for reuse. For specialized scenarios such as tunnel construction, the Company innovatively applies advanced technologies, including tunnel wastewater treatment and reuse equipment, significantly improving the water recycling efficiency and reducing the total wastewater discharge.

Wastewater discharge

82,432,600

tons

Case

Zero Discharge of Production and Curing Wastewater: Lixian Beam Yard of China Railway No. 3 Engineering Group Establishes Water Resource Recycling System

Shixiong Railway Lixian Beam Yard of China Railway No. 3 Engineering Group innovatively implemented an integrated water resource recycling system featuring "source collection - process treatment - intelligent reuse". By constructing a comprehensive drainage network, a wastewater treatment station, a multi-stage sedimentation and water storage facility, and an intelligent spray system for curing, it achieved zero discharge of production and curing wastewater. Through automated separation of sand from gravel, wastewater purification, and rainwater recovery, treated water quality meets curing requirements, achieving over 95% water resource reuse rate. In 2025, 245 beam casting units were completed, saving approximately 21,000 cubic meters of groundwater through the beam curing process alone, while reducing water, material, and labor costs, delivering significant economic and environmental benefits.

Water resource reuse rate over

95%

Lixian Beam Yard of China Railway No. 3 Engineering Group

China Railway Tunnel Group's closed-loop management system for tunnel excavation wastewater "collection - treatment - testing - reuse"

Waste Management

The Company adheres to the principles of "reduction, resource utilization, and harmless treatment", comprehensively strengthening full-process management of construction waste.

Non-hazardous waste

Includes waste concrete, steel offcuts, and excavated rock spoil. The Company reduces waste generation by optimizing construction planning, promoting prefabricated construction, and enhancing on-site waste classification and collection, while actively advancing resource utilization. For example, Class III surrounding rock spoil is crushed and screened for reuse as subgrade fill or concrete aggregates; scrap steel is centrally collected and reprocessed into structural reinforcement for small components; and concrete debris is reused as base material for site hardening.

Hazardous waste

Includes waste engine oil, used paint containers, waste batteries, and waste catalysts. The Company strictly complies with the Standard for Pollution Control on Hazardous Waste Storage. Dedicated temporary storage facilities for hazardous waste are established, with clear labeling and record-keeping systems in place. All hazardous waste is entrusted to licensed professional entities for transfer and disposal, and an electronic receipt system is implemented to ensure full traceability and closed-loop management.

Hazardous waste

emissions	intensity	disposal rate
1,888 tons	0.018 kg/RMB 10,000	100%

non-hazardous waste

emissions	intensity	disposal rate
4,857,700 tons	0.044 ton/ RMB 10,000	100%

Case

"Big Capacity Processor" of China Railway Hi-Tech Industry Corporation Limited Solves Shield Muck Disposal Challenge

The Integrated Engineering Muck Eco-processing System of China Railway Hi-Tech Industry Corporation Limited processes up to 1,200 m^3 of shield muck per day on the average. Through processes including continuous belt conveyor transportation, multi-stage screening, high-pressure spraying, sand washing cyclones, and filter press dewatering, muck is efficiently separated, with 840 m^3 of coarse, medium, and fine sand aggregates and 360 m^3 of dewatered mud cakes produced. The sand aggregates are used for concrete mixing and shield grouting, while the mud cakes can be processed into non-fired bricks, with a resource utilization rate of over 70% and waste transformed into valuable resources.

Integrated Engineering Muck Eco-Processing System of China Railway Hi-Tech Industry Corporation Limited

Noise Management

The Company strictly implements the *Emission Standard of Environment Noise for Boundary of Construction Site* and integrates noise control into its green construction management system. It adopts a four-pronged approach incorporating "technical noise reduction, layout optimization, time-based control, and monitoring with early warning" to effectively minimize noise impacts during construction activities.

Case

Electric Girder Crane of China Railway No. 10 Engineering Group Makes Beam Lifting "Efficient and Quiet"

The MDEL200 electric-drive tire-type girder crane was introduced for the dedicated Line Project of Ningbo Hub Meishan Railway of China Railway No. 10 Engineering Group. With a total power of 200 kW and energy transfer efficiency of 85%, the equipment saves 10%-30% energy compared to traditional hydraulic drive equipment, while controlling operational noise below 85 decibels, effectively improving the acoustic environment during construction. The equipment featuring pure electric drive enables zero emissions and no oil leakage, significantly improving energy utilization efficiency and the environment at the site, providing strong support for green and intelligent construction.

Operational noise controlled below **85** decibels

China Railway No.4 Engineering Group equips workers with noise-reducing earplugs

Optimizing Resource Utilization

CREC integrates the principles of conservation, intensive use, and green and low carbon philosophies into the full process of production, operations, and project construction, systematically promoting the efficient use and recycling of energy, water, and materials, thereby reinforcing the foundation for green development.

Energy Management

The Company thoroughly implements the *Regulations on Supervision and Management of Ecological Environment Protection and Energy Conservation*, adhering to a systematic, digital, and precise management philosophy to continuously advance energy conservation and carbon emission reduction, and improve the efficiency of energy utilization. In fields of engineering projects and transportation infrastructure, the Company actively promotes the adoption of renewable and clean energy technologies, such as photovoltaic, wind power, and air-source heat pumps, facilitating the implementation of low-carbon transportation and infrastructure projects. With source control as the core, the Company accelerates the phase-out of high-energy-consuming and outdated electromechanical equipment through equipment upgrades and technological innovations. Priority is given to procuring energy-efficient construction machinery and office facilities that meet the national energy efficiency standards, and renewable energy engineering equipment is extensively used to reduce the energy consumption intensity from the outset.

Total energy consumption
3,944,602 tons of standard coal

Energy intensity
0.036 tons/RMB 10,000

Gasoline consumption
443,736 tons

Diesel consumption
1,329,860 tons

Coal consumption
116,060 tons

Natural gas consumption
64,930,000 m^3

Heat consumption
45,590 GJ

Electricity consumption
9,578.41 GWh

Electricity intensity
87.56 kWh/RMB 10,000

Renewable energy consumption
355,014 tons of standard coal

Solar energy
106,504 tons of standard coal

Purchased green electricity
248,510 tons of standard coal

Energy consumption target for 2026

2.9% reduction in energy intensity (at comparable prices) from 2025

Case

Photovoltaic Power Generation at Tunnels — Exploring a New Green Energy Path for Transportation Infrastructure

China Railway Investment Group promoted the photovoltaic power generation project at the tunnels on the Huanren-Ji'an Expressway and Yanji-Changchun (Puchang Section). In the project, the central isolation belts at tunnel entrances and exits and highway green belts are utilized, with photovoltaic modules installed at 27 tunnel substations. A "PV power generation + DC power distribution" mode is adopted, and the generated electricity is directly connected to the tunnel lighting DC power supply system for immediate use, with the proportion of surplus electricity fed into the grid strictly controlled below 20%. A total of 2,713.15 kW of PV capacity was installed along the entire section, with an average annual power generation of approximately 2.903 million kWh. The project is expected to save 1,161.2 tons of standard coal annually, reduce CO_2 emissions by 2,894.2 tons a year, and cut electricity costs by RMB 1,033,300 per year. This project provides a replicable practical model for promoting renewable energy and building a low-carbon transportation system in the transportation infrastructure sector.

Photovoltaic Power Generation Project for Huanren-Ji'an Expressway and Yanji-Changchun Expressway

Water Resource Management

The Company strictly implements the requirements of the *Statistical Report for Energy Conservation and Ecological Environment Protection of Central State-Owned Enterprises* issued by SASAC. It has established a comprehensive water resource statistics and monitoring system to standardize water usage and consumption accounting, and strengthen the consistency and accuracy of data management.

The company is committed to continuously reducing water consumption in construction. In practical construction operations, the Company actively implements water-saving measures, widely adopting water-efficient automatic sprinkler systems, multi-stage sedimentation tanks, and recycled water recovery facilities. These measures help the Company achieve efficient reuse of construction wastewater in processes such as concrete curing, vehicle washing, and site dust suppression, significantly improving the water recycling efficiency. Treated reclaimed water is prioritized in each project to minimize the consumption of fresh water.

In 2025, the Company's water for construction projects is primarily sourced from municipal water supply, with stable water quality and quantity. Applicable water sources were adequately guaranteed, and no difficulties in water access were reported.

Water consumption

371,839,400 m^3

Water intensity

3.40 m^3/RMB 10,000

Recycled water volume

148,736,000 m^3

Case

Intelligent Atomized Curing Device of China Railway No. 2 Engineering Group

The Beam Yard of China Railway No. 2 Engineering Group innovatively developed an intelligent curing device for box girder webs, which atomizes water into 50-100μm particles through high-pressure atomization technology. Featuring a profiling spray structure, the device allows full-coverage, low-evaporation precision curing. The device is equipped with a water storage tank and a circulating water replenishment system, reducing water conveyance losses and achieving a 34.8% reduction in water consumption per curing cycle. Recycled water is used for non-production purposes like site dust suppression, realizing cascaded use and promoting the transformation of railway precast component curing towards green, efficient, and fine practices.

Intelligent Atomized Curing Device

Circular Economy

The Company deeply integrates the concept of circular economy into its entire business chain and adheres to the full-process management principle of source reduction, process control, and end-of-pipe recycling. Through green construction and prefabrication technologies, waste generation is minimized at the source, while idle resources and construction solid waste are increasingly recovered and reused to comprehensively enhance the resource utilization efficiency and maximize the synergistic benefits of energy conservation, reduced resource consumption, pollution reduction, and carbon emission mitigation.

Case

Shield Tunneling Machine Remanufacturing - Building a New Model for Circular Utilization of High-End Equipment

Through China Railway Engineering Services Co., Ltd., CREC has established four major shield tunneling machine remanufacturing bases in Qingyuan (Guangdong), Deyang, Yixing and Xinxiang. It has built a circular chain featuring "product, application, remanufacturing and reapplication". Waste shield tunneling machines/TBMs undergo cutter head repair, main drive upgrading, as well as diameter expansion or reduction modification to cater to the needs of new projects. Over the past four years, a total of 290 shield remanufacturing operations have been completed, covering more than 40 cities across China, with over 3,000 cutters repaired, with a single maintenance of key components can save tens of thousands of yuan in costs.

In 2025, CREC's case titled Developing Shield Tunneling Machine Remanufacturing to Realize the Circular Reuse of Old Shield Tunneling Machines and Implement the Concept of Green Development was included in the 2025 Compilation of Excellent Sustainable Development Practices of Central State-Owned Enterprises issued by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC). It serves as a practical benchmark for the green transformation of high-end equipment.

The Company has	Remanufacturing	Covering more than
5 shield machine remanufacturing bases	**290** units completed in the past four years	**40** cities across China

Case

Luban Platform Builds a Closed-loop Model of "Lease & Reuse + Idle & Waste Disposal" to Promote Circular Utilization of Materials

The China Railway Procurement E-commerce Platform (Luban Platform) focuses on the circular economy by establishing two digital platforms: a leasing service platform and a surplus and obsolete materials trading platform, addressing bottlenecks in internal material circulation. Since its launch, various units have cumulatively issued over 600 internal leasing requests and completed more than 20,000 transactions for the disposal of surplus and obsolete materials, enabling efficient reuse of idle resources and reducing inventory backlog and duplicate procurement. The two platforms operate in synergy to form a closed-loop model of "leasing and reuse + surplus and obsolete material disposal," achieving full lifecycle management of resources. Through platform-based operations, the Company has significantly reduced material waste and lowered procurement and disposal costs.

Green Office

The Company actively promotes low-carbon, energy-efficient, and green office work, systematically implementing technological upgrades and management optimization such as intelligent lighting control, real-time energy monitoring, and renewable energy applications. Paperless meeting systems are widely adopted, effectively supporting the dual goals of reducing energy consumption and carbon emissions while enhancing the management efficiency.

Case

CREC Headquarters Taps into Energy-saving Potential Through Digital and Intelligent Technologies

CREC Headquarters has vigorously advanced systematic energy-saving upgrading:

Strengthening routine energy management

- By adopting fine management measures such as time-based temperature control for air conditioners, enforcing the "lights off when leaving" rule, and promoting smart energy-saving sockets, the Headquarters has effectively reduced energy consumption for daily operations.

Upgrading intelligent lighting systems

- The office buildings are fully equipped with the NiCS intelligent lighting system, featuring high-efficiency LED light sources and sensors to enable automatic and intelligent lighting control, greatly cutting energy use for lighting.

Building a smart energy supervision system

- Supported by the energy management platform, real-time metering and data analysis are carried out for key energy-consuming areas, including overall electricity consumption, air conditioning systems and data centers, so as to tap into potential for energy conservation and carbon reduction.

Promoting the application of renewable energy

- Green energy such as solar power has been introduced to supply clean electricity for daily building operations.

Through a series of technical transformations and management optimizations, the Company achieved a year-on-year decrease by approximately 10% in annual energy consumption, saving RMB 800,000 in energy costs, and setting a headquarters-level green building benchmark.

Case

Smart Water Conservation Practices of CREC Headquarters

CREC Headquarters continues to advance fine water resource management. An intelligent irrigation system has been introduced to automatically adjust irrigation time and frequency according to weather conditions and plant water requirements, enabling remote and smart control of landscape irrigation. Equipped with concealed micro-sprinklers arranged among plants, the precision sprinkler irrigation system reduces water consumption by more than 30% compared with traditional methods. A rainwater harvesting system has been built to collect rainwater from flower boxes, flower beds and reservoirs, which is reused for cleaning exterior walls and fences as well as landscape irrigation. Reclaimed water is widely used for toilet flushing and plant maintenance. Through the coordinated operation of energy-saving equipment and intelligent systems, the average monthly water saved during the peak period of usage of reclaimed water ranges from 80 to 230 tons.

Promoting Green Construction

Aligning with the goal of low-carbon transformation of transportation infrastructure, CREC embeds the green construction principle into the entire project lifecycle, and systematically advances the green and intelligent upgrades of engineering projects. By promoting clean energy, low-carbon technologies, and energy-saving equipment, the Company deepens the deployment of renewable energy infrastructure, and establishes benchmarks for low-carbon construction, leveraging breakthroughs in key technologies such as smart construction and resource recycling in major projects. The Company also emphasizes evaluation-driven construction and the demonstration and guidance roles of projects. In 2025, 100 green model projects and 51 energy-saving and low-carbon technologies were recognized, with multiple projects achieving industry awards for green construction, collectively enhancing the green construction capabilities of the entire system.

Green Design

The Company consistently adheres to a source-oriented design philosophy of "prioritizing green development and advancing low-carbon transition", driving its transition toward green, intelligent, and high-quality development. With its core objectives centered on resource conservation and intensive utilization, environmental friendliness, and intelligent, efficient operations, the Company has systematically advanced its innovation in green design. Leveraging its science and technology innovation system, the Company carries out coordinated technological breakthroughs across the entire value chain with a focus on key areas such as intelligent surveying, green planning and design, integrated utilization of renewable energy, and smart operation and maintenance. It aims to establish a green construction technology system and standards framework covering the full lifecycle of "R&D - design - construction - operation and maintenance", thus empowering lifecycle green and low-carbon management through upstream design innovation, and driving the coordinated green transformation upstream and downstream the industry chain.

Case

CREC Establishes a Green and Low-Carbon Research Center to Build a Source of Green Infrastructure Technologies

CREC has set up the Research Center for Green and Low-Carbon Infrastructure, developing one of China's first pioneering bases for original green and low-carbon technologies. Working in synergy with national key laboratories such as the Intelligent and Green Bridge Construction Laboratory and the Tunnel Boring Machine and Intelligent Maintenance Laboratory, the Center has built a national-level green and low-carbon innovation platform covering basic research, technological breakthroughs, and achievement transformation. Throughout the year, the Company held hundreds of seminars, special training sessions and other events on green and low-carbon development. It entered into strategic cooperation with a number of top research institutions and universities to accelerate the research and industrial application of green technologies, fostering an open, collaborative innovation ecosystem where industry, academia and research are deeply integrated.

Technical Seminar on Green and Low-Carbon Development of Infrastructure held by CREC

Case

Municipal Environmental Construction Co., Ltd. of CREC Innovates Corrugated Steel Support Technology to Advance the Implementation of Green Design

Municipal Environmental Construction Co., Ltd. of CREC, a subsidiary of China Tiegong Investment & Construction Group Co., Ltd., has developed an innovative construction technology for shafts with corrugated steel support plates, addressing the drawbacks of traditional concrete shafts, such as long construction cycles and high resource consumption. This technology adopts prefabricated arched corrugated steel support plates and H-shaped steel reinforcing rings and applies a prefabricated top-down construction method, enabling materials to be disassembled and recycled. Compared with conventional processes, it eliminates procedures including steel bar binding and formwork erection, shortening the construction period by approximately 60%. As extensive concrete pouring is unnecessary during construction, raw material costs have been reduced by around 65%. Except for the bottom supports, all other components are reusable, substantially improving resource utilization efficiency and cutting overall costs by up to 70% delivering both optimized green design and enhanced economic benefits.

Construction period shortened by approximately

60%

Raw material costs reduced by approximately

65%

Overall costs cut by up to

70%

Case

Low-Carbon Technologies Empower Green Development of Railway Stations

China Railway Eryuan focuses on the railway station building sector, leveraging advanced technologies such as big data and artificial intelligence to transform the full lifecycle of design, construction and operations. Through multi-dimensional innovations in smart energy, digital operation and maintenance, intelligent facilities and green construction, the Company injects technological momentum into railway stations, building a new ecosystem that is safe, efficient, green and comfortable.

Planning and Design Drawing of Kunming West Railway Station by China Railway Eryuan Engineering Group

Green Construction

Guided by the principles of "resource conservation, environmental friendliness, safety and efficiency, and low-carbon intelligence", the Company independently develops its core green construction technologies and integrates the requirements for green and low carbon development in the entire construction process. It comprehensively promotes green construction, coordinates its efforts in energy conservation and carbon reduction, pollution prevention and control, and resource recycling, and has developed a number of benchmark green projects in the industry, facilitating the large-scale application of green construction technologies.

Case

Chongqing East Railway Station: China's First Demonstration Project Integrating Station, City and Landscape

The Chongqing East Railway Station project, constructed by China Railway, is the nation's first demonstration project integrating "station, city and landscape," and a key node in Chongqing's "mi-shaped" high-speed rail network. It adheres to the highest three-star green building standard to implement green construction practices. The project adopts ETFE double-layer single-cavity skylights, achieving high levels of natural daylighting while reducing roof self-weight and lowering structural energy consumption. The waiting hall features an integrated island-type air-conditioning system—the first of its kind in railway station buildings in Southwest China—providing 360-degree air supply and reducing cooling energy loss by more than 20% compared with conventional systems. Combined with scenario-based intelligent lighting systems for precise light control and supported by smart construction site management, the project advances lean, low-carbon construction, establishing a benchmark green and low-carbon transport hub.

Exterior View of Chongqing East Railway Station

Case

An Innovative Energy Recovery Device Helps China Railway Shanghai Group Co., Ltd. Build a Green and Low-Carbon Demonstration Project

Constructed by China Railway Shanghai Group Co., Ltd., the Wanhua Chemical (Penglai) Seawater Desalination Project has adopted an innovative energy recovery device to recycle surplus energy from the discharged water of the reverse osmosis system, reducing energy consumption for the system. The project utilizes circulating cooling seawater from a neighboring power plant, minimizing the impact of water intake on marine ecosystems. The first-phase project has a daily freshwater production capacity of 100,000 tons, saving more than 36 million tons of freshwater resources annually, effectively alleviating regional water shortages. The project was recognized by the China Association of Environmental Protection Industry as a "Model Project for Ecological and Environmental Protection in 2025" and received multiple provincial-level environmental protection demonstration honors. It has set an industry benchmark for the integration of industrial wastewater resource utilization and green construction.

Seawater Desalination Project

Case

A 125-km Green Corridor: The Huizhou-Qingyuan Section of Shantou-Zhanjiang Expressway Earns International Recognition for Outstanding Environmental Performance

In 2025, the Huizhou-Qingyuan Section of the Shantou-Zhanjiang Expressway, constructed with the participation of China Railway Major Bridge Engineering Group, was awarded the only global environmental prize at the IRF Global Road Achievement Awards (GRAA) 2025, establishing itself as an international model for green highway development. Stretching 125.28 kilometres in length, the Huizhou-Qingyuan Section passes through more than 60 scenic areas that feature high ecological sensitivity.

Shantou–Zhanjiang Expressway

Case

China Railway First Group Co., Ltd. Builds a Benchmark for Green Construction of Renewable Energy Projects in Sandy, Gobi and arid Regions

The 6.1 GW renewable energy project of Huadian located at the northern foot of the Tianshan Mountains in Xinjiang, undertaken by China Railway First Group Co., Ltd., is China's first supporting project for outbound transmission channels of large-scale renewable energy bases in sandy, Gobi and arid regions, including wind power, photovoltaic power, energy storage and booster station construction. Located in an ecologically fragile area, the project adhered to a green and low-carbon philosophy, adopting advanced technologies such as AI-based UAV inspection, photovoltaic cleaning robots, and BIM+GIS digital twins to establish a full-process green construction system and improve resource utilization efficiency. Carbon footprint was reduced through green electricity procurement, achieving synergy between engineering construction and ecological protection. The project was awarded the Excellent Practice in Green Project Management by the Project Management Institute (PMI) of the United States. It was also selected into multiple national innovative cases featuring low-carbon and smart power development, setting a green benchmark for the construction of renewable energy projects in desert areas.

6.1 GW renewable Energy Project of Huadian at the Northern Foot of the Tianshan Mountains in Xinjiang

Protecting Natural Ecosystems

CREC actively implements the green development philosophy and deeply integrates ecological and biodiversity protection into its corporate strategy and full lifecycle project management to promote the harmonious coexistence between project construction and natural ecosystems. It has established a closed-loop ecological management system covering the entire project lifecycle, and achieved a 100% pass rate of environmental impact assessment for completed projects for consecutive years, demonstrating notable performance in environmental compliance management. Upholding the principle of "protection first", the Company rigidly incorporates biodiversity conservation into its full-process project management to minimize the ecological disturbance from construction activities. It also conducts regular ecological protection training and publicity programs to build company-wide consensus on ecological conservation and continuously strengthen ecosystem protection.

Pre-Construction Phase

The Company engages professional institutions to conduct environmental impact assessments and, based on the assessment results, formulates scientifically sound and effective protection plans. It takes measures for soil and water conservation, biodiversity conservation, and vegetation protection based on coordinated planning, and implements the requirements for scientifically justified site selection, standardized spoil disposal, upfront protective measures, and reutilization of resources.

Construction Phase

The Company continues to increase its investment in ecological protection, adopts environmentally friendly equipment, and optimizes construction processes and methodologies to minimize the impacts on water bodies, air quality, vegetation, and wildlife. For temporary land use, it strictly prepares and implements land use and reclamation plans, with a particular focus on strengthening the protection for environmentally sensitive areas such as densely populated areas and nature reserves.

Post-Construction Phase

The Company carries out land reclamation and ecological restoration in accordance with relevant regulations to effectively reduce ecological impacts and maximize the protection and restoration of the natural environment.

Case

China Railway No. 2 Engineering Group Establishes a Full-Cycle Ecological Control System to Protect Rare Plateau Species

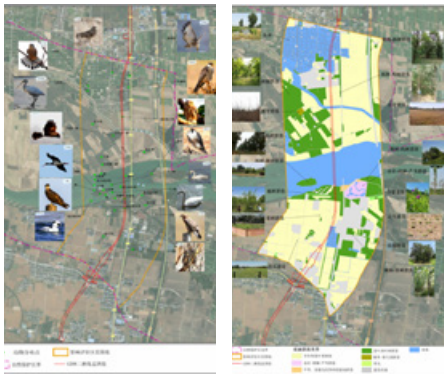
In its plateau railway projects, China Railway No. 2 Engineering Group has built a whole-process management system covering preliminary assessment, construction control and ecological restoration, rigorously implementing protection measures for wild fauna, flora and natural habitats. For the projects, professional ecological protection teams were established to conduct ecological surveys in cooperation with local authorities to map the distribution of rare animals, plants and ancient and famous trees. Targeted plans were formulated, featuring labeled management, designated protection zones, and optimized access roads to avoid ecologically sensitive areas. During construction, informational signs were installed and dedicated personnel arranged for routine patrol and monitoring. Through scientific site selection, preemptive protection, ecological compensation and continuous supervision, the projects achieved coordinated progress between construction and ecological protection, safeguarding regional biodiversity.

Wild Flora Protection

Case

Yellow River Mengjin Reconstruction Project: Making Way for Endangered Species

China Railway (Shanghai) Investment implemented stringent biodiversity protection measures in the reconstruction project of the G208 Erxi Line in Mengjin. Prior to construction, comprehensive ecological surveys were conducted, accurately identifying 22 nationally protected species, including the black stork, whooper swan and wild soybean, and dedicated protection plans were developed. During construction, strict controls were placed on work boundaries, with measures such as low-noise equipment, suspension of nighttime operations, vehicle speed limits and horn restrictions to minimize ecological disturbance. More than 100 ecological protection signage boards were installed, and over 20 company-wide training sessions were conducted. Construction schedules were dynamically adjusted to avoid peak migration periods of wintering birds. The project achieved zero casualties of wildlife, with no significant impact on the habitats of rare species, maintaining stable regional ecological quality and enabling coordinated development between highway construction along the Yellow River and ecological protection.



Identification of Endangered Flora and Fauna at the Project Site

Case

Yichun Luming Mining Co., Ltd. under China Railway Resources Group Builds a Green Mine Benchmark

Yichun Luming Mining Co., Ltd. under China Railway Resources Group was included in the provincial-level green mine catalogue in 2023 and shortlisted for the national recommended list of green mines in 2025. Integrating smart mine development with the philosophy of green development, the Company realized fine resource management. Intelligent technologies boosted resource utilization efficiency and enhanced environmental monitoring capacity. By the end of 2025, the Company had covered 76,000 cubic meters of soil on waste dumps and tailings ponds, sowed grass across 19.31 hectares, and planted 15,000 trees. Supported by a monitoring system, the ecological environment within the mining area improved significantly.

The Company had covered **76,000** cubic meters of soil on waste dumps and tailings ponds

Sowed grass across **19.31** hectares

Planted **15,000** trees

Case

From Black-Necked Crane Isolation Zones to Native Vegetation Restoration: Multiple Measures Taken by China Railway Seventh Group to Protect the Fragile Zoigê Ecocystem

The Xicheng Railway project, constructed by China Railway Seventh Group, is located adjacent to the Zoigê National Wetland Nature Reserve. Prior to construction, comprehensive wildlife surveys were conducted, and isolation zones were established within 500 meters of black-necked crane breeding sites, with construction suspended during breeding periods. Wildlife protection warning signs were installed along the entire line, and rare and protected plant species were safeguarded through fencing and transplantation measures. The "three steps, one method" approach was applied to protect alpine meadows, achieving a turf stripping and reinstatement rate of 95%. Native vegetation was used for habitat restoration, with over 120,000 square meters of habitat rehabilitated. Batching plants were equipped with wastewater treatment systems, enabling 100% wastewater reuse with zero discharge. Vegetation coverage in restored areas exceeded 85%, and the frequency of bird activity increased significantly, effectively protecting the fragile plateau ecosystem.

Jointly Building Harmonious Communities with People-Centered Commitment

03

CREC consistently adheres to the original aspiration and mission of a central SOE, deeply cultivates a people-centered commitment, fulfilling its social responsibilities through practical actions to conveys the warmth of a central SOE through pragmatic measures. The Company anchors national strategies to deeply cultivate the main business of infrastructure construction, adheres to craftsmanship quality to build high-quality projects, focuses on technological innovation to achieve breakthroughs in core technologies, strictly guards the safety baseline to consolidate the foundation of development, and expands its overseas layout to serve the construction of the "Belt and Road Initiative"; the Company adheres to a people-oriented approach to empower employees' growth, collaborates with industry chain partners for win-win coexistence, and deeply engages with local communities across all projects to promote harmonious integration. Through comprehensive, multi-level, and normalized responsibility practices, the Company strengthens the baseline of people's livelihood security, thereby demonstrating the responsibility and demeanor of a Chinese central SOE.

Our Actions

Key Performance

- Number of patents held
  48,029 items
- Work safety investment
  RMB **23,547** million
- Total number of employees
  289,250 persons
- Total training investment
  RMB **378.968** million
- Awarded the highest rating of "Good" in designated assistance for central SOEs for
  7 consecutive years


1 NO POVERTY
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS

Serving National Strategies

CREC consistently upholds its responsibility to serve national priorities, proactively aligning with coordinated regional development strategy, major regional strategies, and the functional zoning strategy, bravely acting as a trailblazer in building a transportation power. In 2025, the Dadu River Bridge on Qinghai-Xizang Railway was successfully closed, and multiple high-speed railways, including the Xi'an-Yan'an, Guangzhou-Zhanjiang, Baotou-Yinchuan, Shenyang-Changbaishan, and Chongqing-Guiyang High-speed Railways, were successfully completed and opened to traffic. During the 14th Five-Year Plan period, the Company completed 6,363 km of high-speed railways, and its cumulative participation in high-speed railway construction reached 22,300 km, enabling the national operating mileage of high-speed railways to exceed 50,000 km. A batch of key projects, including the Changtai Yangtze River Bridge, Zhengzhou-Kaifeng Intercity Railway, Tianjin Metro Line 4, and Beijing-Weixian Expressway, were completed and put into operation, injecting strong momentum into the continuous improvement of the national integrated transport network.

In 2025

2,417 construction projects commenced

2,027 projects commenced as scheduled

CREC participated in the construction of the Shenyang-Changbaishan High-speed Railway (Shenbai High-speed Railway), building a new transportation trunk line for the revitalization of Northeast China.

CREC designed and constructed the Guangzhou-Zhanjiang High-Speed Railway (Guangzhan HSR), significantly reducing travel time between the Beibu Gulf Urban Agglomeration and the Guangdong-Hong Kong-Macao Greater Bay Area, providing robust support for high-quality regional economic and social development.

The Gaoligongshan Tunnel, constructed by CREC, serves as a pivotal project for the Dali-Ruili Railway and a key component of the China-Myanmar International Railway Corridor. Upon full operation, it will end the historical absence of railway access in ethnic minority regions of western Yunnan. Goods entering via the Ruili Port can rapidly reach inland areas through this major transport artery significantly enhancing trade, logistics, and cultural exchange between China, Myanmar and the broader Southeast Asian region.

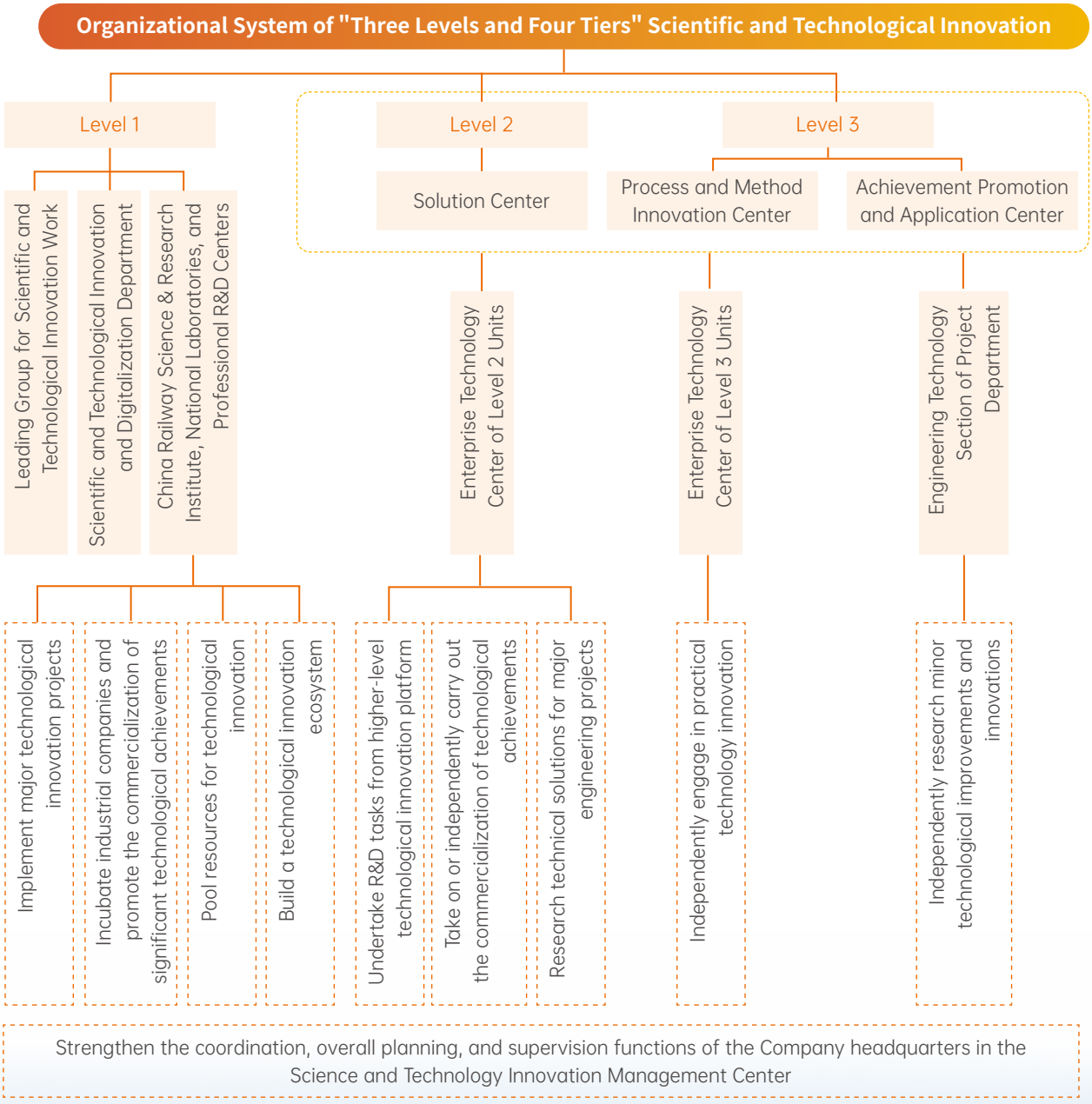
The Baotou-Yinchuan High-speed Railway (Baoyin High-speed Railway) designed and constructed by CREC was opened to traffic, facilitating the implementation of the strategy for the large-scale development of the western region in the new era.

Strengthening Technological Innovation

CREC consistently regards scientific and technological innovation as the primary driving force for high-quality development, deeply implements the innovation-driven development strategy, continuously deepens the reform of scientific and technological innovation systems and mechanisms, and improves the full-chain innovation system. Anchoring major national strategic demands and industry technological frontiers, and focusing on core fields such as rail transit, long-span bridges, deep-sea tunnels, railway electrification, and smart construction, the Company goes all out to overcome a batch of "bottleneck" key core technologies, breaks through the technological bottlenecks in major engineering construction, and solidifies its leading technological advantages in the industry. By deepening the integration of industry, academia, and research, accelerating the transformation of scientific and technological achievements, driving the intelligent and green transformation of industries, and cultivating and expanding new quality productive forces, the Company leads the upgrading of the entire industry chain through scientific and technological innovation, thereby serving the country's high-level scientific and technological self-reliance and self-strengthening.

Building an Innovation System

The Company continuously optimizes the top-level design and systems and mechanisms for scientific and technological innovation, deepens the construction of the "three levels and four tiers" scientific and technological innovation system, accelerates the implementation of the construction plan for leading scientific and technological enterprises, and improves the performance assessment system for scientific and technological innovation oriented towards innovation value, capability, and contribution, thus comprehensively elevating the governance efficiency of scientific and technological innovation. In 2025, the Company organized and convened a conference on scientific and technological innovation work, systematically planned the scientific and technological innovation development blueprint for the 15th Five-Year Plan, and clarified the directions and paths for the scientific and technological innovation work of the entire group.


Organizational System of "Three Levels and Four Tiers" Scientific and Technological Innovation
Level 1
Level 2
Level 3
Solution Center
Process and Method Innovation Center
Achievement Promotion and Application Center
Leading Group for Scientific and Technological Innovation Work
Scientific and Technological Innovation and Digitalization Department
China Railway Science & Research Institute, National Laboratories, and Professional R&D Centers
Enterprise Technology Center of Level 2 Units
Enterprise Technology Center of Level 3 Units
Engineering Technology Section of Project Department
Implement major technological innovation projects
Incubate industrial companies and promote the commercialization of significant technological achievements
Pool resources for technological innovation
Build a technological innovation ecosystem
Undertake R&D tasks from higher-level technological innovation platform
Take on or independently carry out the commercialization of technological achievements
Research technical solutions for major engineering projects
Independently engage in practical technology innovation
Independently research minor technological improvements and innovations
Strengthen the coordination, overall planning, and supervision functions of the Company headquarters in the Science and Technology Innovation Management Center

The Company strengthens the full-process closed-loop management of R&D investments, continuously improves the usage efficiency of scientific research funds, and establishes a full-chain management mechanism covering accounting analysis of R&D fund inputs, implementation effect assessment, and special audits, supervision, and accountability, thereby ensuring that R&D investments accurately match the needs of overcoming core technical challenges and that outputs efficiently respond to the needs of industrial development. In 2025, the Company's scientific research investment amounted to RMB 22.52 billion, accounting for 2.06% of the primary business revenue.

The Company constructs a multi-level R&D platform matrix featuring "national-level leadership, provincial and ministerial-level support, and enterprise-level implementation", and carries out targeted scientific research and breakthroughs focusing on industry core technological bottlenecks and major engineering construction demands. The Company deepens the deep collaborative innovation of industry, academia, and research, establishes long-term strategic cooperative relationships with top domestic universities such as Tsinghua University and Southwest Jiaotong University, jointly builds collaborative scientific research institutions, and carries out joint breakthroughs in key core technologies and joint cultivation of innovative talents. The Company improves the full-process management mechanism for the transformation of scientific and technological achievements, perfects the scientific research achievement assessment system centered on innovation value, and implements special rewards for high-value innovative achievements and major technological breakthroughs; these measures effectively stimulate full-chain innovation vitality and accelerate the transformation of scientific and technological achievements into engineering applications and industrial development.

By the end of December 2025

- **3** national laboratories (engineering research centers): National Engineering Research Center for High-speed Railway Construction Technology, State Key Laboratory of Tunnel Boring Machines and Intelligent Operation and Maintenance, and State Key Laboratory of Intelligent and Green Bridge Construction
- **1** national-local joint research center: National-Local Joint Engineering Research Center for Digital Rail Transit Technology Research and Application
- **21** state-recognized enterprise technology centers
- **10** postdoctoral research stations
- **61** provincial and ministerial-level R&D centers (laboratories)
- **142** provincial-recognized enterprise technology centers
- **1** railway industry key laboratories
- **4** railway industry engineering research centers
- **1** field scientific observation and research stations
- **17** professional R&D centers of the Company

Cultivating Scientific and Technological Innovation Talents

The Company constructs a tiered scientific and technological innovation talent system; with academicians and National Engineering Survey and Design Masters as leaders, senior professional and technical talents as cadres, and over 40,000 frontline highly-skilled talents as the foundation, it fosters a high-quality innovative workforce. The Company formulates and implements internal management systems such as the *Working Opinions on Promoting the Internal Paid Transformation of Practical Technological Achievements* and the *Regulations on the Management of Scientific and Technological Innovation Awards*, and intensifies preferential rewards for units and individuals with remarkable achievements, fully stimulating the vitality of various innovation subjects. The Company actively recommends Great Craftsmen of the Nation, and regularly selects scientific and technological pacesetters and special-grade technicians to build a growth and display platform for talents. Focusing on frontier technologies, the Company conducts systematic training to comprehensively enhance the professional capabilities and technological application levels of scientific and technological innovation talents.

By the end of 2025

Academicians of the Chinese Academy of Engineering	Members of National Excellent Engineer Team	National engineering survey and design masters	National-level candidates of the Hundred- Thousand-Ten-Thousand Talent Project
2 persons	2 teams	9 persons	12 persons

Experts receiving special government allowance of the State Council	Recipients of the National Special Support Program for High-Level Talents	Winners of Science and Technology Award for Chinese Youth	National highly-skilled workers
110 persons	3 persons	3 persons	55 persons

National technical experts	National-level master artisans	Highly-skilled workers receiving special government allowance of the State Council
35 persons	5 persons	37 persons

Case

Special Training on the Practical Operation of AI Technology

From 7 to 10 January 2025, CREC organised a specialised training programme on artificial intelligence, covering major management levels and all business segments across the Company. The training curriculum included frontier development trends, fundamental theories, technical operations, demonstration application scenarios, data mining and AI security. The programme enhanced innovation awareness and application capabilities in artificial intelligence across all levels of the Company, laying a solid foundation for the implementation of AI+ initiatives.

Case

The First "Pioneer Cup" Scenario + AI Innovation and the Fourth Post Competency Competition

In September 2025, CREC held its inaugural "Pioneer Cup" Scenario + AI Innovation Competition, alongside the fourth Post Competency Competition, under the theme "Pioneer Intelligence Manufacturing, AI Empowerment," to promote company-wide participation in innovation. The competition attracted 39 secondary units, 135 teams and 353 employees. Following professional training, online preliminary screening and expert evaluations, a total of 32 award-winning teams from 18 units were selected. A number of AI-driven innovations with practical application value across multiple business areas emerged, effectively supporting the Company's accelerated digital and intelligent transformation and further fostering an open and collaborative innovation ecosystem.

Deepening Digital and Intelligent Transformation

The Company deeply implements the "AI+" movement, establishes large models in vertical domains, expands high-value application scenarios, strengthens the centralized management of informatization, promotes data integration and connectivity, and deeply mines the value of data assets, thus solidifying the digital and intelligent foundation of new quality productive forces.

CREC releases the Pioneer Large Model

Expressway construction

The Company has constructed an AI capability system in the vertical domain, focusing on breakthroughs in intelligent construction, intelligent inspection and emergency response, intelligent maintenance equipment development, and digital employee systems, driving the AI upgrading of the full life cycle of expressways.

Survey and design

The Company has developed the "Pioneer· Survey and Design Large Model", integrating 23 core capabilities in 8 categories to construct an intelligent application system covering all business processes such as geological analysis and bridge design, achieving full-process automation. The model has been promoted and applied in major national projects such as the plateau railway and the Chengdu-Chongqing Middle-route High-speed Railway, providing solid technical support for enhancing engineering design quality and innovation capabilities.

Industrial manufacturing

The Company has built the digital and intelligent foundation of the "Industrial Brain"; relying on the intelligent computing cloud center, it releases the "Pioneer ·Industrial Manufacturing Large Model" to form a "1 + 4 + N" service system, providing full-chain AI support for manufacturing scenarios.

The "four electrics" engineering for rail transit

The Company launched the "Pioneer · Four-Electrics Large Model," focusing on four core business areas—intelligent design, intelligent construction, intelligent operation and maintenance, and intelligent industry—establishing 26 intelligent agents. Its flagship application, "Zhangshang Dianhua," has reduced cross-departmental collaboration and communication costs by 60%, improved knowledge retrieval efficiency by 99%, and shortened hazard inspection response time from hours to minutes, injecting new quality productive forces into the intelligent construction of high-speed rail.

Special and long-span bridges

The Company has developed the "Pioneer · Bridge Large Model", building a "1 + 38" technical system based on full industry chain data, achieving full life cycle digital and intelligent mutual feedback in bridge design, manufacturing, construction, equipment, and operation and maintenance. The Company has launched the bridgehead agent platform, which covers 16 high-value AI scenarios and integrates functions such as image-based hazard recognition and intelligent scheme generation; it has been applied in nearly a hundred projects, increasing safety management efficiency by 60%.

Tunnels and underground spaces

The Company has released the "Pioneer · Tunnel Large Model"; based on 773 lines and 120 billion pieces of data from the shield/TBM big data center, it constructs a technical system where the general large model schedules medium and small models, achieving full life cycle scenario + AI digital and intelligent mutual feedback. The Company has launched the Tunnel Man AI assistant with functions such as professional Q&A and standard translation, implementing applications such as BIM visualization for tunnel design and construction evaluation.

Case

CREC Achieves Breakthroughs in Embodied Intelligence

CREC has independently developed intelligent self-propelled operation and maintenance equipment for overhead contact lines, which has been successfully applied on high-speed rail lines such as the Guangzhou–Zhanjiang High-Speed Railway. The system achieves over 95% accuracy in identifying safety hazard characteristics and over 90% accuracy in predicting the lifespan of key components, enabling full-process automated operations from inspection and diagnosis to maintenance. It represents a landmark achievement marking China's high-speed rail entering the "robotic maintenance era."

Replacement rate of routine manual operations

over **80%**

Reduction rate of overhead contact system failures

over **15%**

Application of the China Railway Pioneer Large Model in the Field of "Four Electrics" on the Guangzhou-Zhanjiang High-speed Railway

Demonstrating Achievements in Scientific and Technological Innovation

The Company proactively integrates into the national innovation system, actively undertakes major scientific and technological tasks, and continuously advances the execution of special tasks assigned by the State-owned Assets Supervision and Administration Commission of the State Council, as well as the transformation of related achievements. Focusing on key fields such as long-span bridges, deep-sea tunnels, railway electrification, and high-end equipment, the Company strives to break through technological bottlenecks in major engineering construction and create more innovative demonstration projects.

In 2025

The Company undertook

7 national key scientific research projects

98 Provincial and ministerial-level science and technology awards

1 achievement selected into the *Recommended Catalog of Scientific and Technological Innovation Achievements of Central SOE*

CREC Released Top Ten Innovation Achievements in 2025

	Greenization	Intelligentization		Integration
Serving major national strategies	1. Complete construction technology for polar construction	4. Intelligent high-speed railway construction technology		8. Plateau and alpine railway construction technology
Transformation and upgrading of traditional industries	2. Construction technology for green and low-carbon integrated transport hubs	5. Intelligent construction technology for tunnels and underground engineering	6. Intelligent construction technology for "four electrics" engineering in rail transit	9. Construction technology for special and long-span bridges
Cultivating and expanding strategic emerging industries	3. Green, low-carbon, and environmentally friendly construction technology	7. Intelligent perception and maintenance technology for transport infrastructure		10. Shield/TBM manufacturing technology

1. Complete construction technology for polar construction

Built Qinling Station, the world's first station with a 100% prefabrication rate; adopting fully modular designs and polar weather-resistant materials, with only 0.2mm of corrosion over 100 years. Created a "wind-solar-storage-hydrogen-diesel" microgrid, with clean energy accounting for 60%, achieving dual-platform intelligent control.

2. Construction technology for green and low-carbon integrated transport hubs

Developed station-city integration design and built green hubs such as Fengtai Station and Qinghe Station. Integrate systems such as photovoltaic power generation and rainwater recycling, in which Qinghe Station obtains the Three-Star Green Building Certification and LEED Gold Certification, driving the transformation of hubs towards green, low-carbon, and intelligent development.

3. Green, low-carbon, and environmentally friendly construction technology

Constructed a full-chain green system of "design - construction - operation and maintenance", utilizing Lightweight Ultra-High-Performance Concrete (LUHPC) and low-carbon ratio concrete, reducing cement usage by 20%. Built green demonstration projects such as the Lhasa-Nyingchi Railway and the China-Laos Railway, practicing the concept that "lucid waters and lush mountains are invaluable assets".

4. Intelligent high-speed railway construction technology

Constructed a full-chain system of "digital and intelligent survey - intelligent construction - intelligent operation", and applied Building Information Modeling (BIM) and Internet of Things (IoT) technologies to achieve a 15% increase in survey efficiency, a 20% increase in precision, and a 25% increase in production efficiency.

5. Intelligent construction technology for tunnels and underground engineering

Built the largest shield/TBM data center in China and create a full-chain system of intelligent excavation, support, and assembly. Pioneered trackless transportation and intelligent ventilation technologies and realizes full-process mechanization of the drill-and-blast method, driving the intelligent transformation of tunnel construction.

6. Intelligent construction technology for "four electrics" engineering in rail transit

Independently developed hybrid-electric and hydrogen-fuel work vehicles, and innovate six intelligent tooling devices, achieving a 99.5% pass rate in key processes. Construct a digital twin system of BIM + Geographic Information System (GIS), in which the intelligent detection system wins an international award from International Data Corporation (IDC), setting a global benchmark for "intelligent manufacturing".

7. Intelligent perception and maintenance technology for transport infrastructure

Constructed a full-cycle system of "perception - assessment - maintenance", achieving micrometer-level defect detection for tracks and sub-millimeter-level for bridges. Developed independent detection equipment and health management platforms, driving the transformation of traditional maintenance towards intelligent, green, and efficient operation and maintenance.

8. Plateau and alpine railway construction technology

Created a four-dimensional survey system of "space-air-ground-borehole" and developed domestic plateau survey equipment to achieve data acquisition in unmanned areas. Propose intelligent disaster reduction route selection and multi-level shock absorption technologies and overcomes the challenge of tunnels with high ground temperatures of 92.6°C, supporting the construction of the Sichuan-Tibet Railway.

9. Construction technology for special and long-span bridges

Pioneered the stiffness design theory for large-span bridges on 350 km/h high-speed railways and develop domestic software such as the "Structural Nonlinear Analysis System (SNAS)" and "Linghui", achieving international leadership in the nonlinear analysis of cable-supported bridges. Created an intelligent manufacturing model of "five lines and one system", assisting in the millimeter-level closure of the Changtai Yangtze River Bridge.

10. Shield/Tunnel Boring Machine (TBM) manufacturing technology

Ranked first globally in production and sales for eight consecutive years, building a comprehensive product portfolio. Developed the world's first full-process intelligent shield machine, with automatic tool changing efficiency increased by 5-8 times and the localization rate of core components exceeding 95%, achieving a leap from following to leading.

By the end of 2025

132 National Science and Technology Progress Awards and National Technology Invention Awards

862 Provincial and Ministerial-level Science and Technology Progress Awards

200 Tien-yow Jeme Civil Engineering Prizes

Protecting Intellectual Property

The Company strictly complies with laws and regulations such as the *Patent Law of the People's Republic of China* and the *Trademark Law of the People's Republic of China*, formulates the *Patent Management Regulations of CREC* and the *Trademark and Trade Name Management Regulations of CREC*, and improves the full-chain intellectual property protection system. In patent management, unified leadership and tiered responsibilities are adopted and through the scientific and technological management information system, it achieves full life cycle dynamic management and strengthens the management and confidentiality control of service inventions. The trademark management, comprehensively coordinated by the Legal and Compliance Department for registration, renewal, and rights protection, strictly standardizes the licensing of the "China Railway" trade name, and strictly prevents unauthorized use and counterfeit infringements. In 2025, the Company was granted 8,540 patents, providing strong momentum for high-quality development.

In 2025

Core papers published
1,061 articles

Patents held
48,029 items

Patents authorized
8,540 items

Invention patents
3,624 items

Overseas patents
194 items

Software copyrights obtained
906 items

Intellectual property rights held
2 items

Forging Craftsmanship Quality

CREC vigorously carries forward the spirit of craftsmanship, adheres to the fundamental principle of "quality first for a century-long plan", deeply integrating the pursuit of excellence into the full life cycle of projects, constructing a full-chain closed-loop quality control system, and empowering quality upgrades through technological innovation to fully build high-quality projects, set industry quality benchmarks, and fully demonstrate the leading role of a central SOE in building a quality-strong nation.

Governance

The Company scientifically sets quality targets, deepening lean management, and implementing total quality management (TQM) at different levels and across different industries. The Safety, Quality and Environmental Protection Supervision Department is comprehensively responsible for the quality control and work safety supervision of the Company's engineering, products, services, and operational maintenance of operating assets, including establishing and improving the Company's quality management system, enhancing emergency management for safety, quality and environmental protection, and strengthening supervision over the rectification of common engineering quality issues.

The Company has issued the *Guiding Opinions of CREC on Strengthening the Full Life Cycle Quality Supervision of Construction Projects and Improving Engineering Construction Quality*, which clarifies and standardizes the implementation paths and work requirements for the full life cycle quality management and supervision of construction projects from four dimensions, namely, implementing responsibilities, detailing tasks, rectifying and improving, and comprehensive leading.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中国中铁股份有限公司
统一社会信用代码：91110000710935003U
注册地址：中国・北京市・丰台区南四环西路128号院1号楼918
办公地址：中国・北京市・海淀区复兴路69号9号楼
质量管理体系符合标准
GB/T 19001-2016/ISO 9001:2015 和 GB/T 50430-2017
认证范围如下：
铁路工程、公路工程、市政公用工程、港口与航道工程设计施工总承包，桥梁工程、隧道工程、城市轨道交通工程设计施工专业承包，工程总承包管理，工程项目管理，投融资与运营管理
注：GB/T 50430-2017 仅适用于施工范围。
本证书有效期至2026年10月15日
认证范围涉及法律法规要求的行政许可、资质许可、强制性认证的，证书与资质共同使用有效。
在正常接受年度审核的情况下，与年度监督保持通知一并使用有效。
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颁证日期：2023年10月13日
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Quality Management System Certification Certificate of CREC

Strategy

Closely aligned with major national strategies and enterprise development plans, the Company leads the transformative development of global infrastructure through quality, continuously consolidates the quality and brand advantages of the "state-owned enterprises" in the five traditional fields of railways, highways, urban rail transit, municipal engineering, and housing construction, actively expands into emerging infrastructure fields such as water conservancy and hydropower, energy pipeline networks, intelligent construction, and computing power facilities, as well as systematically improves the quality development layout across all fields. The Company has established a normalized identification mechanism for quality-related risks and opportunities, systematically analyzed and assessed their impacts on business operations and financial performance, and formulated targeted response measures to achieve closed-loop control of quality risks.

Risk/Opportunity Type	Description of Impacts of Risks/ Opportunities on Business and Finance	Time Frame	Response Measures
 Risks	An imperfect engineering management system leads to engineering quality problems or safety accidents, resulting in negative impacts on the Company's operating costs and reputation, potentially incurring substantial compensation.	Medium and Long Term	Improve the construction of the engineering quality management system to realize the full life cycle quality management and supervision of engineering
	Construction defects trigger issues related to engineering quality warranties and rework rectifications, resulting in increased investments in rework costs and warranty fees.	Medium Term	Carrying out standardized technological and process transformation, and establishing an online monitoring system for process parameters and quality ensures the standardized implementation of engineering
 Opportunities	By delivering high-quality engineering, the Company strengthens its brand equity and expands its market layout, thereby supporting revenue growth.	Medium and Long Term	By advancing end-to-end digitalization across design, construction, and operations enhances project delivery capabilities and enables the development of flagship projects, the Company builds landmark projects, actively applying for the National Quality Engineering Award, strengthening brand communication, setting benchmarks, and shaping the corporate image

Engineering Quality Management

The Company deeply implements the requirements for full life cycle quality supervision of construction projects, promotes standardization across the entire processes of the quality management system, engineering entity construction, industrial product manufacturing, and operation and maintenance service operations, thereby comprehensively elevating the quality control level of projects. Focusing on the whole process of production organization and quality risk prevention and control, the Company continuously optimizes the project quality supervision system and operating mechanism, establishes and improves the traceability management and accountability mechanism for major quality accidents and incidents to consolidate control responsibilities at all levels. The Company strictly implements the *Qualifications Management Regulations of CREC*, and continuously strengthens the management of various qualifications and licenses, providing a solid guarantee for the compliant construction and quality improvement of projects. By the end of 2025, the Company possessed a total of 4,219 various qualifications and licenses.

The Company firmly grasps the barrier of source quality control for engineering, and has issued the *Notice on Strengthening Compliant Procurement of Project Products and Construction Quality Control* to urge all affiliated units to deeply carry out special inspections and rectifications of quality hazards in industrial products. The Company established a material quality risk register, comprehensively incorporating core materials that constitute engineering entities and directly relate to engineering safety and quality into the two-level centralized control system to continuously intensify direct procurement from manufacturers, by which it strengthens the defense line of engineering quality control from the procurement source.

Built by China Railway No. 3 Engineering Group with participation from China Railway Hi-Tech Industry Corporation Limited, the Xinjiang Yili River Third Bridge-China's first three-tower, four-span "O"-shaped low-pylon cable-stayed bridge-spans the junction of Yining, Kekedala, and Qapqal. Stretching 2,028 m, the project extensively applied informatization and smart technologies. Digital modeling precisely replicated the entire main tower construction process, determining the optimal assembly scheme to ensure perfect alignment of the beam geometry and three-dimensional cable surface curvature.

For the G577 Jinghe-Yining Line's pivotal project-the North Tianshan Extra-Long Tunnel-invested and constructed by China Railway City Development and Investment Group, surveyed and designed by China Railway Liuyuan Group, and built by China Railway First Group and China Railway No. 2 Engineering Group, the "Advanced Geological Prediction + Dynamic Construction Adjustment" approach was adopted. This enabled real-time optimization of support parameters, effective control of surrounding rock deformation, and ensured tunnel structural stability. After tunnel breakthrough, vehicles traverse the northern Tianshan range in approximately 15 minutes.

The track laying of the entire Xi'an-Ankang High-speed Railway constructed by China Railway First Group was officially launched in October 2025; it will adopt newly self-developed track laying equipment and an intelligent management system project in China to achieve digitalized and precise management of the track laying process.

The Chengdu Metro Line 13 Phase I project, EPC-contracted by China Railway City Development and Investment Group with participation from multiple CREC subsidiaries, overcame numerous technical challenges and environmental constraints. It achieved high-quality milestones including station roof completion, tunnel breakthrough, track laying completion, electrification, handover of track areas, trial runs, and station handover, forming the " CREC Solution" for metro construction in bustling metropolises.

The Guangzhou Baiyun International Airport Phase III Expansion's Ground Transportation Center (GTC) complex project, constructed by China Railway Construction Engineering Group, is now operational. Implementing systematic management, the project strictly enforced quality standards such as tagged acceptance inspections and triple-check systems to ensure first-time excellence.

The New Gwadar International Airport in Pakistan, constructed with the participation of China Railway Beijing Engineering Group, is a key project under the China–Pakistan Economic Corridor. Adhering to refined construction and lean management, the project achieved zero safety hazards and zero quality defects, and successfully passed completion acceptance. It received an aid project certificate from the Economic Cooperation Bureau of the Ministry of Commerce of China and was rated "Excellent."

High-Quality Customer Service

The Company adheres to a customer-centric service philosophy and constructs a standardized, refined, and smart excellent service system; through system improvement, process optimization, and supervisory improvement. Meanwhile, it continuously enhances the quality of operational services, winning customer trust, public recognition, and industry reputation with high-quality and warm services.

Overhaul customer service management systems

The Company formulates and continuously improves quality management measures and service standards for operating projects, constructing a standardized service system covering functions such as customer service hotlines, emergency rescue, and information release. It clarifies standard requirements such as service processes and response timelines to promote the standardized, normalized, and refined development of operational services. It also has formulated and issued special systems such as the *Expressway Operation Management Manual* and implemented distinctive warm service measures such as smile service, continuously improving service quality and customer satisfaction.

Improve complaint handling and feedback mechanisms

The Company builds diversified and convenient customer feedback channels including telephone, email, project site suggestion boxes, and publicized complaint hotlines, of which a linkage mechanism between the customer service hotline and the monitoring center is established for the expressway operation business to achieve around-the-clock acceptance of appeals. The Company improves the full-process closed-loop management mechanism of "receipt and registration - classified transfer - investigation and verification - handling and feedback - return visit and archiving", regularly conducts statistical analysis of complaint data, performs source analysis on typical complaints, promotes systematic rectification and optimization, and incorporates the effectiveness of complaint handling into the operational service quality assessment and evaluation system. In 2025, no major complaints related to products or services were received.

Strengthen the data-driven approach and service improvement

The Company continuously strengthens the construction of a smart operation and maintenance system, and promotes the application of digital tools such as intelligent video monitoring systems and intelligent maintenance platforms, providing solid technical support for the preventive maintenance and service process optimization of operating projects, and driving the transformation of service management from post-event disposal to pre-event prevention. Specifically for the expressway operation business, the Company deeply applies big data technology to accurately analyze traffic flow characteristics during holidays and public travel patterns to deploy traffic management and service guarantee plans in advance. It also pushes real-time road condition information and travel tips through navigation platforms, thereby comprehensively enhancing the convenience and experience of public travel.

Case

Building High-quality Projects Based on Public Voices: Customer Satisfaction Practices of the North Extension Project of Wanjiali Road in Changsha

The North Extension Project of Wanjiali Road in Changsha undertaken by China Railway No. 5 Engineering Group., taking customer satisfaction as its core, constructs a full-cycle communication mechanism, precisely connects with the demands of all parties through multiple channels such as questionnaire surveys and in-depth interviews to integrate them into the construction plan. In this project, priority was given to the construction of power tunnels, sound barriers and construction periods were optimized, incremental launching and jacking processes were adopted to minimize travel disruptions, and regional culture was incorporated to create landscapes. Through regular return visits and dynamic optimization, customer satisfaction increased from 80% to 95%, and the project was awarded the 3-Star Rating of National Customer Satisfaction Engineering for the year 2025, becoming a model for integrating people's livelihood with high-quality projects.

Responsible Marketing

The Company adheres to the philosophy of law-based compliance and integrity-based operation, strictly abides by national laws, regulations, regulatory requirements, and industry norms such as the *Tendering and Bidding Law* and the *Implementation Regulations of the Tendering and Bidding Law*, revises and improves the *Business Development Management Measures of CREC*, continuously improves the responsible marketing system, strictly observes business disciplines, standardizes business behaviors, and resolutely maintains a fair, just, and orderly competitive industry market order, thereby effectively fulfilling the compliance operation responsibilities of a central SOE.

Impact, Risk and Opportunity Management

Always adhering to baseline thinking and a systematic concept, the Company centers on the full life cycle of projects to construct a full-chain quality risk and opportunity management system covering risk identification, analysis and assessment, tiered control, closed-loop disposal, and continuous optimization; by deeply integrating risk management with quality improvement, compliant operation, and quality and efficiency improvement, the Company not only strengthens the quality and safety baseline but also deeply uncovers opportunities for quality upgrades.

Construction of quality risk identification and assessment system

Combining the characteristics of projects, process tooling plans, and construction scenarios, the Company carries out comprehensive inspections, systematic analyses, and quantitative assessments of quality risk triggers and impact scopes from the two core dimensions of management and technology. The Company unifies and standardizes the initiation nodes, implementation frequencies, determination criteria, risk notifications, and dynamic rating adjustment rules for quality risk assessments, and clarifies the leading control and synergistic cooperation responsibilities of all levels and relevant business departments, thereby forming a standardized risk assessment mechanism with clear rights and responsibilities, standardized processes, and top-down collaboration. Meanwhile, relying on big data and information technology, the Company strengthens the precise identification and dynamic monitoring of quality risks to ensure that risk inspections are comprehensive without omissions and that rating determinations are scientific and precise.

Full-process and closed-loop prevention and control of quality risks

The Company deeply embeds quality risk control into the entire processes of technical plan compilation and review, construction organization, field operations, and completion acceptance; specifies targeted risk prevention and control measures, control standards, and linkage mechanisms in special technical plans; and dynamically issues quality risk alerts in combination with industry regulatory requirements and actual project construction conditions, thereby pushing the barrier of risk prevention and control forward. The Company establishes and improves the tiered control risk register for quality risks, implements tiered and classified control strictly according to major, relatively major, and general risk levels, and correspondingly clarifies the leading control responsibilities and implementation requirements at each level to construct a three-level risk control system. Thus, by focusing heavily on precise prevention and control of root-cause and systematic major quality risks and core links, it comprehensively strengthens the baseline for quality risk prevention and control.

Uncovering and transformation of quality opportunities

Taking full-chain risk control as a starting point, the Company systematically identifies development opportunities in quality improvement, process optimization, technological innovation, and brand shaping, deeply integrates risk rectification with quality upgrading, lean management, cost reduction, and efficiency enhancement, and drives construction process optimization, perfection of management systems, and breakthrough of technological innovations through risk traceability inspections, thereby achieving a virtuous cycle of "preventing and controlling risks, shoring up weak spots, improving quality, and creating value", and empowering the high-quality development of the enterprise with refined risk management.

Indicators and Targets

Quality Targets

Strictly guard the quality and safety baseline

Eradicate relatively major and above engineering quality liability accidents, strictly control quality red-line issues in railway construction projects, and reduce the frequency of general quality liability accidents for engineering works year-on-year.

Special control of quality-related public opinion

Eradicate major negative quality-related public opinions in national mainstream media, strictly control the fermentation and spread of general quality-related public opinions, and achieve full-process closed-loop handling of quality-related public opinion.

Guarantee engineering entity quality

Achieve a 100% acceptance pass rate for unit works upon initial inspection, ensure that all completed and handed-over works fully comply with national and industry quality acceptance standards as well as the requirements of design documents and technical specifications, with a 100% rectification closure rate for quality hazards.

Deepen full-chain quality control

Continuously improve the quality management system, achieve full coverage of ISO9001 quality management system certification for core production and operating units, continuously reduce common quality defects in projects and product quality defects, and achieve a 100% closed-loop resolution rate for quality-related complaints.

Facilitate quality upgrades through excellence pursuit

The Company actively strives for national and provincial/ministerial-level quality engineering awards, continuously polishes the quality brand of the "state-owned enterprises" in infrastructure construction, and demonstrates the responsibility of a central SOE in building a quality-strong nation.

Indicators

In 2025

31 "National Safety Standard Construction Site" titles awarded by the China Construction Industry Association, **12** project quality management standardization technology competition awards, and **29** Quality Trustworthy Teams

125 engineering quality improvement competition awards awarded by the China Association of Construction Enterprise Management, and **50** Quality Trustworthy Teams

17 projects applied for the Luban Prize

3 projects applied for the National Quality Engineering Gold Award

33 projects applied for the National Quality Engineering Award passed the on-site re-examination by the China Construction Industry Association and the China Association of Construction Enterprise Management

By the end of December 2025

851 national-level quality engineering awards won, including **253** Luban Prizes, **46** National Quality Engineering Gold Awards, and **552** National Quality Engineering Awards.

Strengthening the Foundation of Safety

Consistently adhering to the principle of putting people and lives first, CREC anchors the overall goal of essential safety construction, consolidates full-chain safety responsibilities through iron-fisted and hardline measures, improves the safety management system with systematic thinking, prevents and defuses major safety risks through source governance, and strengthens the all-staff safety defense line through cultural infiltration; the Company resolutely curbs the occurrence of major and extraordinary safety accidents, and earnestly puts the protection of the lives and properties of the people in the first place and implements it effectively.

Building a Safety System

Safety Management Targets

Short-term targets

Comprehensively consolidate the all-staff work safety responsibility system, strictly implement the duties of the first responsible persons, deeply carry out the special movement of "grand reflection, grand rectification, and grand improvement", and resolutely achieve dual decreases in the total number of accidents and the number of fatalities.

Long-term targets

Construct a systematic and complete safety governance system, ensuring that during the entire 15th Five-Year Plan period, the number of fatalities from liability accidents per RMB 10 billion of operating revenue is controlled within 0.5.

Complying with relevant laws and regulations such as the *Work Safety Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, and the *Fire Protection Law of the People's Republic of China*, the Company formulates and issues systems such as the *Three-Year Action Plan for Tackling the Root Causes of Work Safety (2024-2026)*, the *Ten Rigid Rules for Iron-Fisted Safety Governance of CREC*, and the *Occupational Safety and Health Supervision and Management Regulations*; it continuously constructs a systematic, complete, scientifically standardized, and effectively operating safety management system to ensure that the full process of safety management is law-based and rule-abiding, and has passed the ISO 45001 occupational health and safety management system certification.

The Company establishes a Work Safety (Quality) Committee as the overarching decision-making body for work safety work across the entire system. The Committee strictly implements the requirement of "shared responsibility of the Party and government, and dual responsibilities for one post", in which the Secretary of the Party Committee, Chairman, and President of the Company jointly serve as Directors, the Vice President in charge of safety and quality work serves as Deputy Director, and all other leadership team members, senior executives, and heads of relevant headquarters departments are included as members, effectively consolidating the core work safety responsibilities of the leadership team. An office is set up under the Committee, dedicated to being responsible for the implementation, supervision, and closed-loop management of all decisions and deployments made by the Committee.

The entire system constructs a responsibility implementation system that is "horizontally comprehensive and vertically deep" while all second- and third-tier enterprises have established work safety supervision and management departments, and all construction and investment-oriented enterprises are fully equipped with full-time safety directors, achieving full coverage of safety regulatory bodies and full-time personnel. Meanwhile, work safety work is comprehensively incorporated into the performance assessment systems at all levels; for units with prominent shortcomings in safety management and inadequate implementation of responsibilities, measures such as downgrading and one-vote vetoes are strictly executed in business performance assessments and the selection of outstanding and advanced models, thus forming a fully closed-loop management system of "responsibility implementation - assessment and supervision - accountability and effectiveness evaluation".

"1+9+N" Safety Supervision and Management System

"1" refers to the formulation and issuance of the guiding programmatic document that overarching comprehensive work, namely the *Safety, Quality and Environmental Protection Management Measures of CREC*;

"9" refers to the systematic review and rationalization, optimization, improvement, integration, and streamlining of existing management systems to form 9 special management systems, including work safety supervision, engineering quality supervision, ecological and environmental protection supervision, emergency management, work safety responsibility system, system supervision and inspection management, management rewards and punishments regulations, high-quality engineering evaluation, and comprehensive emergency plans;

"N" refers to the issuance of the *Rigid Standards for Safety, Quality and Environmental Protection Management of CREC,* which is divided into the management section, professional section, and operational section with a total of 1,299 articles. At the same time, the *Ten Rigid Rules for Iron-Fisted Safety Governance of CREC* was issued, comprehensively constructing the Company's safety, quality, and environmental protection supervision and management system.

Ten Strict Measures for Maintaining Security of China Railway Group Limited

- Fulfill the responsibility of the first person in charge
- Enforce the "Three Controls & Three Musts" responsibility
- Implement risk identification and prevention
- Confirm operation conditions
- Carry out scheme disclosure and implementation
- Control the quality of key materials
- Manage equipment, tooling, manufacturing and installation
- Supervise and assess cooperative teams
- Ensure the quality and efficiency of hazard investigation and management
- Handle on-site abnormal working conditions

Preventing Safety Risks

The Company lawfully formulates special institutional documents such as the *Guiding Opinions on the Dual Prevention Work Mechanism of Tiered Safety Risk Control and Hazard Inspection and Governance,* the *Emergency Plans for Safety, Quality, Ecological Environment, and Disaster Accidents (Incidents)*, and the *Guidelines for Rescue and Relief Work in Tunnel Construction*; clarifies the control standards and regulatory responsibilities for major safety risks and major hazard sources; and constructs a full-process risk prevention and control system featuring "tiered risk control, closed-loop hazard governance, and highly efficient emergency disposal".

The Company strictly implements the dual control principle of "unit jurisdiction + regional control", coordinates and advances special rectifications, systemic supervision and inspections, and normalized hazard inspections and governance, and carries out dragnet-style and penetrating inspections in key areas and core links; it earnestly ensures the early identification of risks, early rectification of hazards, and early clearance of problems, thereby addressing both symptoms and root causes and resolving issues at the source.

In 2025, the Company officially launched the CREC Work Safety Supervision Information System. Relying on the three core functions of automatic extraction of risk data, sharing of hazard data, and informatized management of accidents and warnings, it comprehensively connects the full chain of risk identification, hazard rectification, and accident warning, achieving digital, intelligent, and visual upgrading in safety risk prevention and control.

Case

"Thunder Movement" for Work Safety

In the third quarter of 2025, CREC launched the "Thunder Movement" for work safety; it clarified that all project departments must conduct 100% dragnet-style inspections of all construction sites and all processes on a monthly basis, and units at all levels must achieve full coverage of tiered supervision and inspections over affiliated construction-in-progress projects and high-risk projects. Through various forms such as special inspections, publicity and training, emergency drills, and post assessments, all units across the entire system comprehensively consolidated safety responsibilities, rectified safety hazards, and prevented and controlled major risks. In 2025, through this special movement and stationed supervision and inspections, a total of 501 projects were inspected, and 118 major hazards were rectified in a closed loop, effectively preventing and curbing relatively major and above-work safety accidents, and earnestly strengthening the safety risk prevention and control capabilities of the entire system.

The No. 1 Company of China Railway No. 5 Engineering Group thoroughly carried out the "Thunder Movement" to conduct comprehensive inspections without blind spots across all projects under construction

Guaranteeing Work Safety

The Company has established long-term intrinsic safety goals, rigorously implemented the *14th Five-Year Plan for Work Safety Management*, and fully strengthened the safety responsibility chain. This ensures comprehensive safety coverage: adequate staffing, dynamic risk identification, effective technical measures, thorough risk controls, complete hazard investigation and rectification, and rigorous emergency response evaluation, achieving system-wide and lifecycle safety management. For contractor safety management, the Company implemented a negative list system, strictly evaluating bidders' work safety management capabilities during qualification screening. Labor management is integrated into prequalification and routine/annual evaluation systems. At contract signing, clauses on labor safety and workers' rights are explicitly defined, requiring contractors to strictly implement occupational health and safety measures and provide secure working environments. The Company has established concurrent insurance safeguards and safety education mechanisms, providing workers with occupational injury and accident insurance. Regular safety and health training creates a closed-loop management model: "strict qualification screening, clear contractual responsibilities, and robust safeguard implementation", minimizing safety incidents and occupational hazards.

Cultivating Safety Culture

The Company consistently regards the construction of safety culture as a crucial grasp for essential safety construction, and builds a multi-level, full-coverage safety education and training system characterized by "leadership taking the lead, post coverage, and all-staff participation"; it continuously drives the internalization of safety concepts in mind and externalization in action, fostering a strong atmosphere where "everyone prioritises safety, is capable of emergency response, acts with safety in mind in all matters, and remains vigilant at all times".

Strengthening the "head goose" leading role of the "critical few", the Company organizes and conducts special training on safety leadership covering over 180 leadership team members of second- and third-tier units, to earnestly enhance the safety performance capabilities of managers at all levels and drive the overall improvement of the entire system's safety management capabilities through the "head goose effect". Focusing on enhancing the capabilities of key posts, the Company carries out targeted special safety training in key areas such as underground excavation construction of tunnels by region and unit; with a total of 1,456 key post personnel trained, it earnestly fortifies the safety defense lines in key areas and core links.

Case

The 24th National "Work Safety Month" of CREC

In June 2025, CREC organized the 24th National "Work Safety Month" swearing-in activity centered around the theme "Everyone care about safety, everyone knows how to respond to emergencies - Find safety hazards around you". The activity covered the headquarters, all units, and over 7,000 construction-in-progress projects, with approximately 300,000 employees solemnly swearing to strictly abide by safety rules and regulations.

over

7,000 construction-in-progress projects

Signing on the promotional banner of the Work Safety Month

Case

Work Safety Management Knowledge and On-site Hazard Inspection Skills Competition of China Railway No. 5 Engineering Group

In August 2025, China Railway No. 5 Engineering Group held a work safety management knowledge and on-site hazard inspection skills competition; focusing on high-risk areas such as operations at heights, temporary electricity use, and hoisting, more than 80 typical hazard points were set up to comprehensively test the contestants' recognition accuracy and ability to formulate rectification plans. Through promoting learning and management via the competition, the activity enhanced the risk identification and practical control levels of primary-level safety management personnel.

Safety training by China Railway No. 2 Engineering Group

VR safety education experience station of China Railway No. 4 Engineering Group

Expanding Overseas Business

CREC consistently adheres to the principle of extensive consultation, joint contribution and shared benefits, deeply integrates into the high-quality joint construction of the "Belt and Road Initiative", and coordinates the construction of major landmark projects and "small and beautiful" livelihood projects; with a batch of exemplary cooperation outcomes, the Company powerfully promotes infrastructure connectivity and economic and trade exchanges among countries along the routes, thereby making active contributions to building a community with a shared future for mankind.

Governance

The Company has established an overseas business governance framework based on the principle of "strengthening the core, consolidating the two wings, and optimising N drivers," forming a "one core, two wings and N drivers" structure. The headquarters serves as the "core," with relevant departments undertaking guidance, supervision and control functions over overseas operations. The International Department exercises centralised management of overseas business, performing overall coordination, scheduling and command functions. China Railway International Group and China Overseas Engineering Group act as the "two wings," leveraging their commercial strengths to advance substantive and localised development in key markets and deepen client and market engagement. Engineering bureaus, design institutes and other secondary units serve as the "N drivers," expanding overseas business in accordance with localisation principles, forming a governance structure with clear responsibilities, efficient coordination and strong end-to-end control. In 2025, the Company revised and improved institutional frameworks such as the *Administrative Measures for Overseas Social Security Management* and the *Emergency Response Plan for Overseas Social Security Incidents*, promoting standardized, systematic and refined management across the full lifecycle of overseas operations and continuously enhancing governance over international business.

Strategy

Taking serving the national strategy of high-level opening-up as its fundamental guidance, the Company anchors the core mainline of high-quality joint construction of the "Belt and Road Initiative", constructs the "One Body, Two Wings, and Multiple Enablers" international operation system, and adheres to the principles of "deeply cultivating core areas, focusing on key breakthroughs, prioritizing benefits, and controlling risks"; by consolidating advantageous national markets, expanding strategic emerging markets, and coordinating domestic and international markets based on the core advantages of the entire industry chain, the Company drives the synergistic overseas expansion of the full chain of Chinese technologies, standards, equipment, and brands, continuously enhances core global operating capabilities, and strives to create differentiated international competitive advantages. In 2025, the implementation of the Company's overseas strategies yielded remarkable results, the market layout was continuously optimized, breakthroughs were made in strategic markets, and both operating scale and development quality achieved dual improvements.

Risk/Opportunity Type	Description of Impacts of Risks/ Opportunities on Business and Finance	Time Frame	Response Measures
Risks	Regime changes or armed conflicts occurring in the host countries of projects may lead to project expropriation or contract breaches, resulting in abnormal losses of fixed assets or construction-in-progress. Disputes and protests arising from local laws and cultures will generate additional expenditures and compensation fees, leading to increased project costs.	Medium and Long Term	The Company establishes a full-cycle impact assessment mechanism for overseas projects and a full-chain risk prevention and control mechanism featuring "front-end research and judgment, in-process control, and post-event closed-loop management", studies and judges international situations and laws and regulations, and implements tiered, classified, and penetrating control over core risks such as geopolitics and market operations.
Opportunities	Undertaking large-scale infrastructure projects in overseas regions helps continuously enhance core global operating capabilities, driving the growth of the enterprise's primary business revenue and total profits.	Medium and Long Term	Grasping the opportunities from the deepening and upgrading of the high-quality joint construction of the "Belt and Road Initiative", the structural upgrading of the global infrastructure market, and the international development of Chinese standards, the Company promotes the full-chain overseas expansion of technologies, standards, equipment, and brands to enhance its international core competitiveness.

Case

A New Benchmark for Pragmatic Cooperation Between China and Iraq: The Nisour Square Interchange Project in Baghdad, Iraq

The Nisour Square Interchange Project in Baghdad, Iraq is a landmark livelihood project implemented to alleviate long-term traffic congestion in the core area of the capital, and it is also a model of the alignment between China's "Belt and Road Initiative" and Iraq's "Development Road" strategy. In response to the complex traffic conditions at the Nisour roundabout, the project team innovatively adopted a three-dimensional scheme of "2 viaducts + 5 tunnels" that integrates Chinese technologies with international standards, constructing a four-level traffic system combining viaducts, ground roads, tunnels, and underpasses, thereby greatly enhancing regional traffic capacity. The successful implementation of the project has established a good brand reputation and a model of cooperation for Chinese enterprises to deeply cultivate the markets in Iraq and the Middle East. The Prime Minister of Iraq personally visited the site for inspections six times during the construction period and highly praised the construction achievements.

CREC crafts the Kinshasa Ring Road Project in the capital of the Democratic Republic of the Congo with ingenuity, solving the "pain points" of people's livelihood and driving local economic development.

The Sunkoshi–Marin Diversion Tunnel Project in Nepal, constructed by CREC, is another "National Pride Project" implemented under the "Belt and Road Initiative", following the successful delivery of the Bheri–Babai Diversion Tunnel. Upon completion and operation, the project has significantly advanced the optimal allocation of water resources across river basins in Nepal and upgraded modern agricultural irrigation systems. It supports the development of an integrated livelihood corridor combining water diversion, irrigation and power generation, promoting stable agricultural output and income growth, reliable clean energy supply and improvements in the regional ecological environment, thereby injecting new momentum into Nepal's economic and social development.

CREC assists in the judicial infrastructure construction in Tanzania, marking new constructive achievements in the joint construction of the "Belt and Road Initiative" between China and Tanzania

The first green building in Fiji constructed by China Railway First Group was officially opened recently in the capital Suva; as the first green-certified building in Fiji, its design integrates multiple sustainable development technologies, including an integrated energy system, a rainwater harvesting system, and smart building management technologies.

Case

The "Water Tower of Life" in the Desert: CREC Helps Senegal Solve the Century-old Drinking Water Challenge

China Railway Seventh Group constructed a 3,200-cubic-meter water tower in Sanar Village, Senegal; as the core project of the Saint-Louis water supply system located 300 km away from Dakar, it effectively solves the drinking water safety issues for thousands of local residents and the University of Saint-Louis, constructing a complete water supply network. The project started in 2021 and was completed in 2025; its main structure passed the acceptance on the first attempt, and the project team actively cultivated local talents, earning high praise from the Director of the National Water Bureau of Senegal. This "small and beautiful" livelihood project connects the terminal ends of water supply, vividly illustrating the profound friendship of China-Africa infrastructure cooperation during the construction of the "Belt and Road Initiative".

Impact, Risk and Opportunity Management

The Company establishes a full-cycle impact assessment mechanism for overseas projects that makes impact assessment a prerequisite procedure for project decision-making, and systematically conducts two-way impact research and judgment, namely, the Company assesses the two-way impacts of the project on the economic society, livelihood employment, and ecological environment of the host country, to maximize the positive value of the project and formulate mitigation plans for potential negative impacts in advance; internally, the Company researches and judges the impacts of changes in international situations and market environments on its operations, finance, and brand, and establishes tiered assessment standards and response mechanisms, thereby providing core bases for grasping opportunities and preventing and controlling risks.

The Company establishes a full-chain risk prevention and control mechanism of "front-end research and judgment, in-process control, and post-event closed-loop management", and implements tiered, classified, and penetrating control over core risks: regarding geopolitics and market operation risks, the Company strengthens front-end admission research and judgment of projects, standardizes full-process operation management, and optimizes the global market layout; regarding work safety and performance compliance risks, the Company normally carries out hazard inspections and rectifications, and constructs a full-process performance compliance supervision system to achieve closed-loop management of problems and hazards; regarding overseas social security risks, the Company strictly implements security management measures and emergency plans, and establishes risk monitoring and emergency linkage mechanisms to guarantee the safety of overseas institutions and personnel; and regarding compliance operation risks, the Company continuously improves the compliance management system, and embeds compliance reviews into the full business process to strictly guard the baseline of compliant operations.

The Company establishes a normalized mechanism for researching, judging, and transforming opportunities, and systematically uncovers core development opportunities based on the results of impact research and judgment: First, it grasps the policy opportunities brought by the deepening and upgrading of the high-quality joint construction of the "Belt and Road Initiative", precisely connects with the infrastructure needs of countries along the routes, and seize the windows for the implementation of major projects; second, it grasps the opportunities from the structural upgrading of the global infrastructure market, and expands into emerging tracks such as green and low carbon, and digital intelligence based on the advantages of the entire industry chain; third, it grasps the opportunities from the international development of Chinese standards, and promotes the full-chain overseas expansion of technologies, standards, equipment, and brands to enhance international core competitiveness; fourth, it grasps the long-term development opportunities brought by localized operations, deeply integrates into the development of host countries, and consolidates the long-term market foundation. Concurrently, it establishes tracking, supervision, and review mechanisms for opportunity transformation to drive the efficient transformation of opportunities into development momentum.

Indicators and Targets

Targets

- Achieve new results in deep integration into the high-quality joint construction of the "Belt and Road Initiative", build a batch of key connectivity projects and high-quality flagship livelihood projects, and **continuously enhance the influence of international brands**.
- Realize **steady growth** in international business revenue and profits, achieve breakthroughs in strategic key markets, and **significantly strengthen** overseas localized operational capabilities.
- Maintain **0** occurrences of major overseas risk events, achieve a **100%** rectification closure rate for risk hazards, and keep overseas business risks generally controllable.
- Continuously improve the international operation system, make new progress in building a high-quality overseas professional team, and **steadily enhance** core competitiveness.

Ranked **2**nd among the Top 250 Global Engineering Contractors

Ranked **14**th among the Top 250 International Engineering Contractors

Won **2** Gold Awards and **2** Silver Awards in the 2025 International Tunnelling and Underground Space Association (ITA) Tunnelling Awards

Hungary-Serbia Railway: Drawing a "Golden Bond" for Mutually Beneficial Development Between China and Hungary was rated as an **Excellent Case in the "Cultural Integration and Value Co-creation"** category of the 2025 (8th) China Enterprise International Image Construction

Indicators

- Provide services to **100+** countries and regions globally
- Have **thousands** of construction-in-progress projects globally
- **30** secondary units of the Company conducting overseas business
- More than **20,000** employees engaged in overseas business
- The Company has achieved **"seven consecutive increases"** in the value of new overseas contracts and operating revenue

Fostering Employee Growth

CREC deeply implements the strategy of strengthening the enterprise through talents, consistently regards employees as the core driving force for development, respects their principal status, improves the protection of their rights and interests, builds platforms for their growth, and provides channels for training and promotion; it drives employees and the enterprise to share the same mind and direction, forge ahead together, and build and fulfill their dreams, thereby consolidating synergy for high-quality development.

Standardizing Employee Recruitment

The Company strictly complies with national laws and regulations related to labor and employment, formulates and implements systems such as the *Talent Introduction Management Measures of CREC*, and ensures the standardized operation of the full recruitment process through institutionalized construction.

The Company consistently adheres to the principle of equal employment, resolutely eradicates employment discrimination based on factors such as gender, nationality, race, religious belief, and marital and family status, sets no age or health thresholds unrelated to the post, and always takes post suitability, professional capability, and comprehensive literacy as the core employment criteria, striving to create a fair, just, and competitive recruitment environment.

The Company constructs diversified talent introduction channels such as organizational selection, open recruitment, recruitment of college graduates, and selective conversion of outstanding dispatched workers; focusing on introducing urgently needed talents, high-level professional and technical talents, and core management talents, the Company continuously optimizes the age, profession, and level structures of the talent team. Relying on the CREC recruitment management information system, the Company achieves online closed-loop management of the full recruitment process, effectively enhancing the efficiency, fairness, and transparency of recruitment work. By the end of 2025, the total number of the Company's employees reached 289,250, with the size of the talent team remaining stable and its structure being continuously optimized.

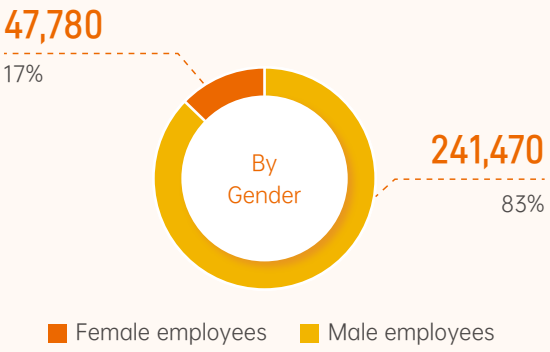
In 2025

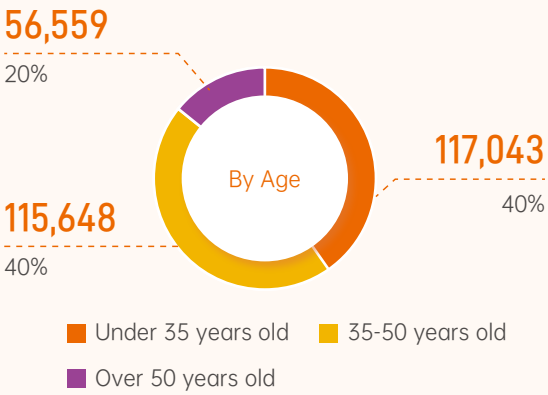
Total number of employees

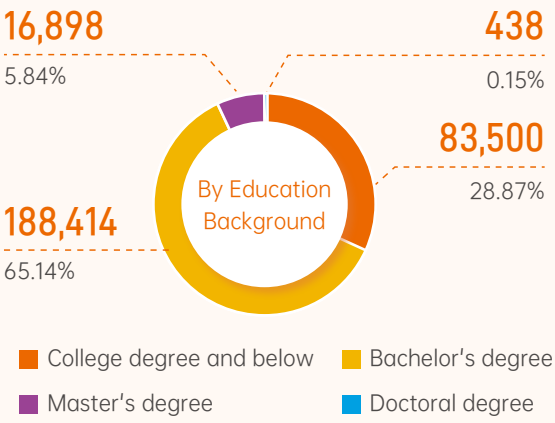
289,250 persons

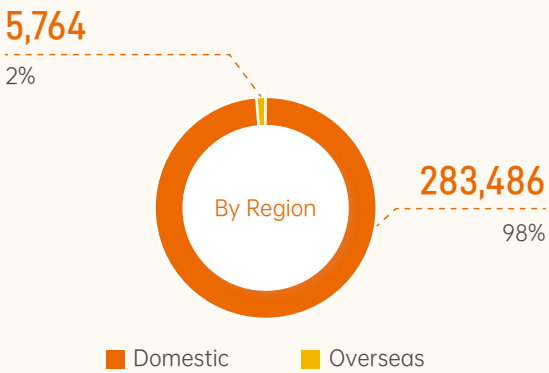
CREC No.4 Engineering Group's campus recruitment session

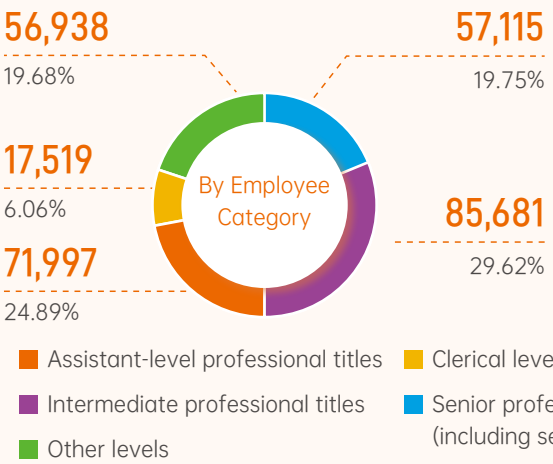
Total Number and Proportion of Employees by Category

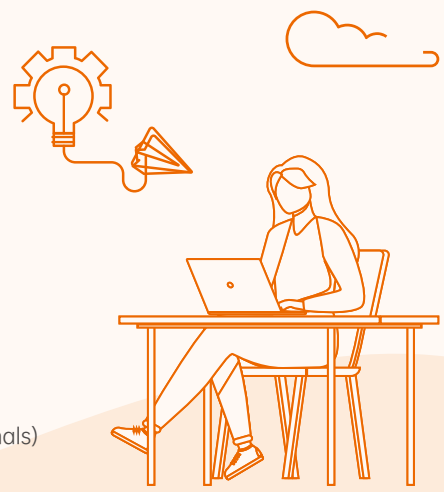












Protecting Employee Rights and Interests

The Company strictly complies with laws and regulations such as the *Labor Law of the People's Republic of China* and the *Trade Union Law of the People's Republic of China*, upholds the philosophy of equal employment, strictly abides by laws and regulations, prohibits employment discrimination, and ensures that laborers are not treated differently due to factors such as gender, race, and age; it earnestly implements the principle of equal pay for equal work, guaranteeing fairness in compensation distribution for employees; meanwhile, the Company establishes a fair and transparent promotion mechanism, provides equal career development opportunities for employees, enhances employees' skill levels through a systematic training system, and creates a workplace environment of fair competition; furthermore, the Company attaches importance to safeguarding the personal dignity of laborers, creates safe and healthy working conditions, and protects the legitimate rights and interests of employees. The Company resolutely boycotts and opposes any form of child labor and forced labor; during this reporting period, no incidents of using child labor or forced labor were found.

The Company earnestly implements the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, and strengthens contract management adhering to the principles of law-based compliance, consensus through consultation, risk prevention, and innovative development; it lawfully signs labor contracts with all hires, clarifying the rights and obligations in terms of labor protection, labor remuneration, insurance and benefits, and professional ethics, as well as the standards and procedures for contract modification, rescission, termination, and renewal; it strictly executes contract clauses and continuously strengthens the full-process management of labor contracts. The overseas institutions and projects of the Company formulate localized labor management systems in accordance with local labor laws and social security laws and standardize the requirements in all links such as local employee recruitment, contract signing, social security payment, attendance management, leave systems, compensation standards, and dismissal processes.

The Company earnestly executes the *Regulations on Paid Annual Leave for Employees* and other various leave regulations, and employees lawfully enjoy rights to annual leave, sick leave, marriage leave, and bereavement leave. In light of production and operations, especially the actualities of frontline project departments, the Company adopts flexible and diverse forms and measures such as rotational rest, compensatory time off, reverse family visits, payment of subsidies, and extended holidays during major festivals, to coordinately arrange employee rest and leave, and implements a system of leave day notification and annual settlement. The Company formulates and implements the *Guiding Opinions on the Management of Compensation and Leave for Overseas Employees*, guaranteeing the leave rights and interests of overseas employees. Implementing the relevant requirements of the Ministry of Human Resources and Social Security on implementing the special working hour system, the Company earnestly executes the *Working Hours and Leave Management Measures*, lawfully and compliantly strengthens working hours management, and implements the special working hour system for posts that meet the prescribed conditions upon application, thereby earnestly safeguarding the rights and interests of laborers.

Optimizing Compensation and Benefits

In accordance with national laws and regulations, the Company continuously improves the market-oriented compensation distribution mechanism, comprehensively implements the overall requirement of "wages rise when benefits rise, and wages fall when benefits fall", and drives the total wage bill to be deeply linked with the enterprise's economic benefits and input-output efficiency, achieving scientific control and dynamic adjustment of the total wage bill.

The Company continuously deepens the reform of the internal income distribution system, standardizes the management of special rewards, allowances, subsidies, and benefits, and steadily advances the construction of medium- and long-term incentive mechanisms such as equity incentives for listed companies, equity and dividend incentives for technological enterprises, and excess profit sharing; it continuously expands the incentive coverage and constantly enhances the precision, orientation, and effectiveness of incentives. The Company adheres to skewing compensation distribution towards high-performing units, core groups, and frontline hardship posts, and focuses on intensifying incentives for scientific research cadres, overseas personnel, and industrial workers. The Company continuously optimizes the compensation structure and assessment mechanism for senior executives, deeply links their compensation levels with the enterprise's overall operating performance, the effectiveness of the work they are in charge of, and the results of their personal performance assessments, and incorporates core binding indicators such as scientific and technological innovation, safety and quality, ecological and environmental protection, and informatization management into the assessment system, achieving bidirectional unity of incentives and constraints.

The Company lawfully pays the "five insurances", namely basic endowment insurance, basic medical insurance, work-related injury insurance, unemployment insurance, and maternity insurance, in full and on time for all active employees, consolidating the baseline of statutory security. The Company establishes and improves the enterprise supplementary medical insurance system, encourages employees to participate in group long-term critical illness supplementary medical insurance, and provides full-cycle health and medical security for employees. The Company strictly implements relevant policies on enterprise annuity, establishes a dynamic annuity adjustment mechanism matching the development of the enterprise, and continuously improves the supplementary endowment security for employees.

Promoting Democratic Management

The Company continuously improves and implements the enterprise democratic management system taking the employee congress as its basic form, constantly deepens work such as the employee congress, transparency of factory affairs, and employee directors, and earnestly guarantees employees' rights to know, participate, express, and supervise. In 2025, the Company held the 2nd session of the 4th employee congress, and successfully completed the agendas according to procedures, including reviewing the administrative work report, the report on the collection and handling of proposals, and the report on the performance of the collective contract, as well as democratic appraisal of leaders and employee directors and supervisors, and the signing of the collective contract. Regarding the proposals collected, deliberated, and established at this employee congress, "one reply for one proposal" was achieved, with a proposal completion rate of 100%. Two joint meetings of the employee congress were held during the year, which reviewed and passed relevant systems such as the *Enterprise Annuity Management Regulations of China Railway Engineering Group Limited*, the *Measures for the Management of the Total Wage Bill of Secondary Enterprises of CREC*, and the *Provisions on the Management of the Work of Employee Directors of CREC*, fully guaranteeing the standardized and effective exercise of employees' democratic rights during the intersessional periods of the employee congress.

The Company continuously unblocks the channels for employees' appeal expression and rights protection services, formulates and issues institutional documents such as the *Management Regulations on the Disposal of Clues for Employee Rights Protection of the Trade Union of CREC*, upgrades and improves the internal "12351" employee rights protection service platform, and establishes a full closed-loop management mechanism of "appeal acceptance - supervision and transfer - rectification and implementation - feedback and return visit"; by responding to and resolving employees' reasonable appeals at the first time, the Company strives to construct a harmonious, stable, mutually beneficial, and win-win new type of labor relations.

China Railway No.3 Engineering Group Holds 2025 Work Conference and the Fifth Session of the Sixth Staff Congress

Building Development Platforms

The Company deeply implements the strategy of strengthening the enterprise through talents, coordinates and advances the construction of "six talent teams" and provides a solid talent guarantee and intellectual support for the high-quality development of the enterprise, assisting the enterprise in preempting the initiative and winning advantages in the fierce market competition. The Company's independently developed "Competency Model for Officers and Talents" won the Outstanding Achievement Award in the SASAC's 2025 Smart Supervision Business Model Innovation Activity, marking the accelerated progression of talent management towards digitalization and intelligentization, and providing a solid talent guarantee for the high-quality development of the enterprise.

The Company actively constructs a diversified training system featuring "online + offline", "practical empowerment", and "cross-regional exchange"; striving to enhance both the political literacy and business capabilities of employees, and synchronously promoting the broadening of vision and innovation of thinking, the Company builds a systematic empowerment and growth platform to comprehensively cultivate high-quality compound talents.

The Company resolutely executes the professional title assessment system and unblocks the development channels for professional and technical personnel. The Company has established promotion and assessment committees for professional and technical personnel in multiple series including engineering, accounting, economics, and political work, and conducts qualification assessments for personnel applying for senior professional and technical titles in the aforementioned series according to the relevant regulations of the Company. In 2025, 6,021 persons passed the assessment for senior professional titles, and 365 persons for senior technicians and above in the Company.

The affiliates of the Company extensively and deeply carry out activities such as skill training, post practice, and technological competitions to continuously enhance the overall quality of technical and skilled talents; the Company attaches importance to discovering innovative and craftsman-type outstanding talents, sets up benchmarks and models through the selection and recommendation mechanism, and stimulates the innovative vitality of talents. In 2025, 6 persons passed the assessment for chief technicians, 67 persons for special-grade technicians, and 292 persons for senior technicians in the Company.

In 2025

Number of National Model Workers

17 persons

Winners of China Youth May Fourth Medal and the New Era Youth Pioneer Award

5 individuals **1** collective

Winners of National Civilized Units

7 units

Number of national-level master artisans

5 persons

Case

China Railway No. 10 Engineering Group Constructs a "Cultivation, Selection, Employment, and Assessment" Talent System

China Railway No. 10 Engineering Group constructs a new integrated talent cultivation system of "education, selection, employment, and assessment"; focusing on capability enhancement, it carried out over 320 training sessions throughout the year, covering 14,300 persons and achieving full coverage of key posts. By strengthening top-level design, it constructs a vertical and horizontal synergistic talent cultivation pattern and precisely cultivates urgently needed talents through "order-based classes", school-enterprise cooperation, and new skills training such as intelligent construction.

Case

Industrial Workforce Development

On June 20, 2025, the CREC's Conference on Deepening Industrial Workforce Development Reform was held in Zhoushan, Zhejiang. The event released the CREC's Industrial Reform Implementation Guide and promotional materials, while providing an official interpretation of the *Implementation Plan for Deepening Industrial Workforce Development Reform*.

Case

Mentorship Program

CREC No. 9 Group actively implements a mentorship system, selecting business experts as mentors to impart skills and experience through hands-on guidance. This initiative precisely addresses new employees' developmental needs, accelerating their integration into the Company and mastery of job competencies. Under mentors' dedicated coaching, a cohort of new employees has rapidly grown into core technical cadres at project sites, injecting fresh vitality into the Company's high-quality development.

Case

The 4th Employee Post Competency Competition

In November 2025, CREC held the expressway operation skills event of the 4th Employee Post Competency Competition, with 17 representative teams and 119 frontline skilled cadres from 6 operating units participating. Centered around core post capabilities such as monitoring, road property inspection, and electromechanical engineering, the competition tested employees' professional literacy and standardized operational levels, further strengthening the standardization and specialization capability construction of the operation sector.

Case

Leadership Development Training

In June 2025, CREC No.3 Engineering Group's Young Cadres Leadership Enhancement Program was successfully conducted at the China Railway Party School, with 34 young cadres from subsidiaries completing all coursework and graduating. This program represents a key implementation of the "Talent-Driven Enterprise" strategy by CREC No.3 Engineering Group's Party Committee and a crucial initiative for building a high-caliber young leadership team.

Indicator		Data	Unit
Proportion of trained employees by gender	Male	83.5	%
	Female	16.5	%
Number of trained employees by employee category	Senior management	573	persons
	Middle management	8,700	persons
	General management	116,000	persons
	Frontline staff	163,977	persons
Average training time by gender	Male	160	hours
	Female	150	hours
Average training time by employee category	Senior management	190	hours
	Middle management	185	hours
	General management	150	hours
	Frontline staff	140	hours
Total annual training investment		37,896.8	RMB 10,000
Number of training sessions conducted		1,600	times
Total number of employees trained		289,250	persons
Employee training coverage rate		100	%

Safeguarding Physical and Mental Health

The Company normalizes the organization of annual health examinations for all employees to timely grasp their physical conditions; by achieving early detection, early intervention, and early treatment of potential health risks, it prevents the occurrence of major diseases from the source and earnestly fortifies a shield for employees' physical health. In 2025, the coverage rate of health examinations for the Company's employees reached 100%.

The Company continuously deepens the Employee Assistance Program (EAP), focusing on employees' core needs such as workplace stress relief, emotion management, setback coping, and career development, it normally carries out specialized humanistic care and psychological counseling services to help employees scientifically cope with various challenges in work and life, thereby escorting employees' mental health. In 2025, the Company additionally equipped 61 Automated External Defibrillators (AEDs) for the plateau railway project, launched a special pilot for overseas employee health security, and newly cultivated 40 EAP psychological assistance cadres; by continuously shoring up shortcomings in frontline emergency health security and strengthening the professional psychological service team, it deepens and solidates the employee health protection.

In 2025

Coverage rate of health examinations for the Company's employees reached

100%

China Railway Materials Trading Luban Commerce Company organised a "One Painting, One Story" workplace event for Mid-Autumn Festival

OH Card stress management training during the employee health care activity of CREC

CREC No. 4 Engineering Group Southern Xinjiang Science Popularisation and Cultural Complex Project carried out the "Health Check-ups at Construction Sites, Bringing Care to Frontline Builders" initiative

Case

China Railway First Group Advances Employee Mental Health Service Work

China Railway First Group carried out the "Delivering Mental Health Services to the Primary Level" activity; focusing on employees' concerns and enterprise development needs, it developed 5 courses on themes of positive psychology, emotion regulation, stress relief, parent-child education, and female. The Company connected with the Shaanxi Provincial Federation of Trade Unions and carried out a total of 50 mental health service activities throughout the year, covering nine provinces; among them, the group company dispatched instructors for 42 sessions, and the provincial federation of trade unions delivered 8 sessions, serving a total of 5,000 persons of frontline employees.

A total of **50** mental health service activities throughout the year

Dispatched instructors for **42** sessions

Served a total of **5,000** frontline employees

Case

Firefly Employee Care Activity of China Railway Wuhan Electrification Engineering Group

China Railway Wuhan Electrification Engineering Group carried out a care month activity themed "Faint Light of Fireflies, Guarding and Accompanying". Relying on a team of 1 supervisor, 9 internal trainers, and 48 health committee members, the Company carried out 7 "You Order, We Deliver" EAP-into-projects activities, serving over 1,500 persons; it established 45 spiritual havens, achieving a psychological care coverage rate of over 90% and a satisfaction rate exceeding 98%.

EAP served over **1,500** persons

Established **45** "spiritual havens"

Psychological care coverage rate of over **95%**

Satisfaction rate exceeding **98%**

Deepening Employee Care

Adhering to the employee-centric development philosophy and deeply practicing the people-oriented development concept, the Company takes the *Implementation Opinions of CREC on Care Services Throughout the Entire Process of Employees' Careers* as the overall guidance to construct a full-cycle, multi-level, wide-coverage, and warm employee care system; by integrating the enterprise's warm care into the full process of employees' career development, it earnestly enhances the sense of gain, happiness, and security of the vast number of employees.

The Company fully implements the requirements for providing full life cycle care services to employees. Every year, it invests nearly 800 million yuan in trade union funds to focus on key milestones throughout employees' career development, including onboarding and trade union membership, relationship building and courtship, marriage and family formation, children's education, medical treatment and hospitalization, as well as retirement and departure. It delivers all-round and inclusive care services to all employees, ensuring that corporate care covers every important stage of employees' growth.

On the basis of inclusive care, the Company continuously constructs a multi-level security system integrating basic social security, enterprise supplementary security, and employee mutual assistance security; it normally carries out distinctive brand condolence activities such as "delivering warmth in winter and coolness in summer", and synchronously establishes a special precise assistance fund, thereby building a solid bottom-line security defense line for the group of employees in difficulties and tightly weaving the people's livelihood security network for the harmonious and stable development of the enterprise.

In 2025, the Company distributed a total of RMB 327 million in condolence payments and relief funds throughout the year, and visited and consoled employees and migrant workers for 420,000 persons; it carried out educational assistance for the children of employees in difficulties, funding 3,708 employees' children; focusing on precisely implementing policies for groups with special difficulties, it provided bottom-line assistance to 331 families of employees in extreme difficulties and 21 employees with major diseases, earnestly relieving the difficulties of and providing timely help to employees in need.

Furthermore, the trade union of the Company continuously promotes the upgrading of frontline care positions, and invested a special fund of RMB 2.5 million to support 50 primary-level projects in creating "Happy Homes"; by continuously improving the working and living conditions of frontline employees and delivering warm care to project frontlines and employees' sides, it earnestly enhances the sense of belonging and happiness of frontline employees.

In 2025

Distributed a total of RMB **327** million in condolence payments and relief funds

Visited and consoled **420,000** employees and migrant workers

Financially supported **3,708** employees' children

Provided assistance to **331** families of employees in extreme difficulties

Case

China Railway No. 9 Engineering Group Carries Out Delivering Warmth in "Two Festivals" Activity in 2025

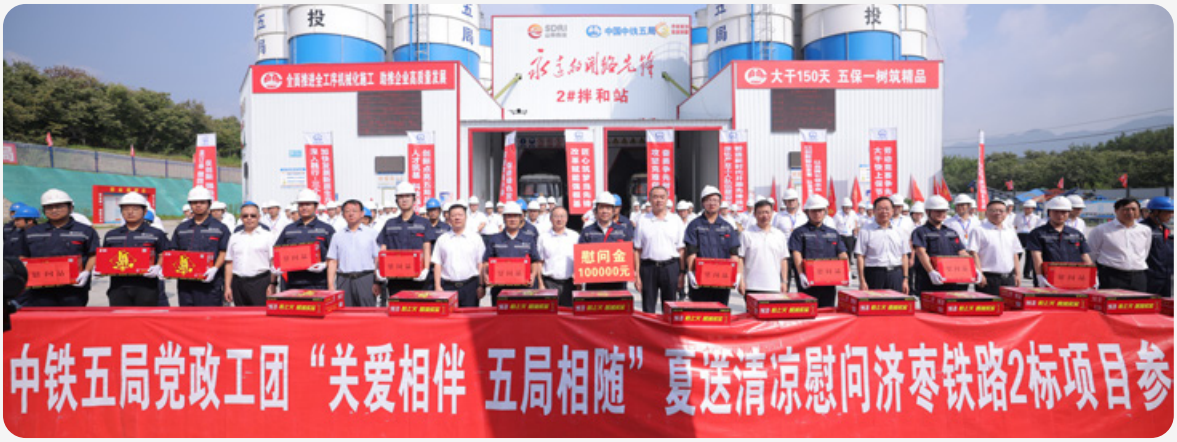
The trade union of China Railway No. 9 Engineering Group, themed "Warming Employees with True Affection, Jointly Creating a Happy Enterprise", carried out a delivering warmth activity during the New Year and Spring Festival; it focused on caring for employees suffering difficulties due to major diseases, accidents, or children's education, advanced model workers, frontline employees sticking to their posts during the holidays, and families of overseas employees. Combined with primary-level research, the Company's leaders conducted visits and condolences, allocated special funds of RMB 4.1 million, and went deep into remote projects, families in difficulties, and key engineering sites to convey organizational care through forms such as door-to-door visits, video connections, and family symposiums. Furthermore, the Company carried out assistance for migrant workers returning home and condolences for those on duty, and organized the "Heart-to-Heart Volunteer Service Team" to provide door-to-door services for special groups, cumulatively consoling 15,000 employees and migrant workers across over 180 projects.

Allocated special funds of RMB **4.1** million

Visited and consoled migrant workers across over **180** projects

Consoled a total of **15,000** employees

Employee Condolences



"Care Accompanies, China Railway No. 5 Stays with You" delivering coolness in summer activity jointly held by the Party committee, administration, trade union, and Communist Youth League of China Railway No. 5 Engineering Group

Festival Activities

Mother's Day activity of China Railway First Group

Spring Festival Carnival activity of China Tiegong Investment & Construction Group

Care for Employees' Children

China Railway Construction Engineering Operations Company “Nuode Little Sprouts” Family Day Event

Summer daycare class for employees' children of China Railway No. 10 Engineering Group

Young Employee Matchmaking

China Railway Major Bridge Engineering Group Eighth Engineering Company hosts "Meeting You, Bridging Love" youth social event

Picture: 2025 collective wedding of China Railway No. 4 Engineering Group

Cultural and Sports Activities

Deepening Exchange and Cooperation

CREC consistently adheres to open cooperation and mutual benefit, and deepens government-enterprise synergy to drive policy implementation and effectiveness; it strengthens enterprise-enterprise linkage to promote synergistic win-win results in the industry chain; and it deepens school-enterprise cooperation to advance the deep integration of industry, academia, research, and application. At the same time, the Company continuously optimizes supply chain management, actively participates in the formulation of industry standards, deepens external exchange and cooperation, and goes all out to construct a diversified, synergistic, mutually beneficial, and win-win industrial ecosystem.

Participating in Standard Formulation

The Company deeply implements the National Standardization Development Strategy by constructing a multi-tier system covering international, national, and industry standards. It actively leads and participates in the formulation and revision of standards across all infrastructure fields, continuously transforming technological innovation achievements and engineering practices into industry norms. This not only guides the high-quality development of the domestic industry with high standards but also promotes Chinese standards globally, consistently enhancing our international discourse power in the sector.

China Railway Material Trade Group

- National Standard *Internet of Things—Logistics Park—part 1: General Requirements for Application System*
- Group Standard *Maturity Evaluation Indicators for Green Supply Chain Management* (T/CFLP0077-2025)

China Railway Liuyuan Group

- International Standard IEC SRD 63302-2:2025 *Smart City Use Case Collection and Analysis – Intelligent Operations Centre for Smart Cities – Part 2: High-Level Analysis*
- International Standard IEC SRD 63302-1:2025 *Smart City Use Case Collection and Analysis - Smart City Intelligent Operations Center - Part 1: High-level Analysis*
- International Standard IEC 63453:2025 *Railway Applications - Current Collection Systems - Validation of Simulation of The Dynamic Interaction Between Pantograph and Overhead Contact Line*

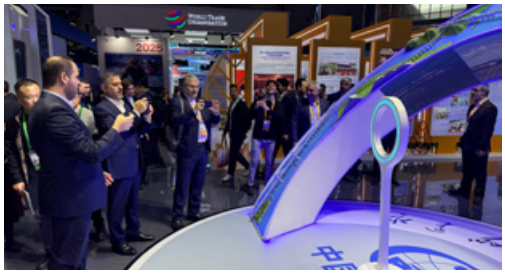
Emphasizing International Exchanges

The Company actively participates in international expos and global industry exhibitions to comprehensively display its full-industry-chain advantages and innovation achievements in infrastructure construction; by broadly connecting with global partners and deepening technological exchanges and industrial cooperation, it drives the integrated overseas expansion of Chinese technologies, standards, equipment, and solutions, continuously enhances global brand influence, and joins hands with global partners to achieve mutual benefits and win-win results.

Case

The 8th China International Import Expo

In November 2025, CREC participated in the 8th China International Import Expo and displayed a comprehensive digital and intelligent sandbox, presenting the achievements in coordinated urban and rural regional development and major infrastructure construction through 5 landmark projects. This exhibition reflected the Company's innovative practices in digitalized management and comprehensive engineering display capabilities, further demonstrating the Company's industry influence in the fields of infrastructure construction and digital and intelligent applications.



Case

The 12th World Congress on High-Speed Railway

In July 2025, CREC intensively displayed more than 20 sets of independently developed intelligent equipment at the 12th World Congress on High-Speed Railway, comprehensively presenting the full-chain technological system of "digital and intelligent survey - intelligent construction - smart operation", and demonstrating its industry-leading position in the fields of intelligent construction and equipment R&D.

Case

China Railway Beijing Engineering Group. Was Invited to Participate in the 2025 inter airport China

China Railway Beijing Engineering Group. was invited to participate in the 2025 inter airport China, displaying its smart construction site platform and digitalized construction technologies, and demonstrating its scientific and technological strength in the field of airport construction. The enterprise possesses "four special-grade" qualifications and the first-grade qualification for airport runways; it has participated in the construction of over a hundred domestic and international airports, covering multiple professional chains. As a demonstration unit for the construction of "four models" of civil aviation airports, the Company takes the lead in achieving full-cycle BIM applications and has built the first "digital twin" airport in China, driving the synergistic development of intelligent construction and the airport economy and continuously leading industry innovation.

Strengthening Diversified Cooperation

Focusing on its main responsibilities and primary businesses, the Company continuously strengthens multi-dimensional cooperation with governments, enterprises, and universities to promote complementarity of advantages and resource integration.

Government-enterprise cooperation

Centered around key fields such as transport infrastructure, urban renewal, ecological protection, and energy development, it constantly expands cooperation spaces and elevates cooperation levels to drive regional economic and social development.

CREC deepened strategic cooperation with Yunnan Province

CREC signed Strategic Cooperation Agreement with Tangshan Municipal People's Government

Enterprise-enterprise synergy

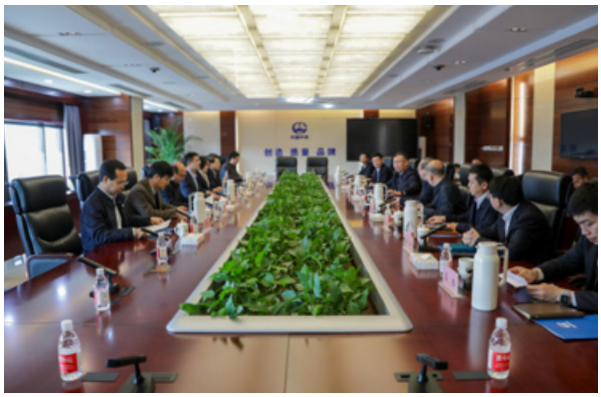
Focusing on major project linkage, industry chain synergy, and financial service innovation, the Company deepens cooperative relationships and constructs a new ecosystem of synergistic development, assisting all parties to preempt the initiative in market competition and grow together.

CREC deepened strategic cooperation with China National Gold Group Co., Ltd.

CREC Signed Strategic Cooperation Agreement with China COSCO Shipping Corporation Limited

School-enterprise co-integration

Jointly building an industry-academia-research platform to promote technological R&D and achievement transformation, and to overcome industry challenges. Through models such as order-based cultivation, internship and practical training, and joint scientific research, the Company constructs a collaborative education mechanism, promotes the deep integration of the education and talent chains with the industry and innovation chains, and precisely delivers high-quality talents.



China Railway Group Limited Signed Strategic Cooperation Agreement with Tsinghua University

China Railway Group Limited Established Long-term In-depth Cooperation with Southwest Jiaotong University

Strengthening Supply Chain Collaboration

Taking the construction of a full-process supplier management system as a lever, the Company deepens the full-chain synergistic linkage of the supply chain, deeply integrates the ESG philosophy into the full process of procurement management, fortifies the defense line for supply chain safety and stability, and builds a compliant, transparent, mutually beneficial, and win-win responsible supply chain.

Governance

The Company established a supply chain management governance system characterized by clearly defined authorities and responsibilities and high operational efficiency, comprehensively embedding ESG risk control requirements into business processes and decision-making mechanisms. It clarified the Production Supervision Center as the centralized management department, responsible for guiding and supervising procurement and supply chain management work across the entire system and carrying out full-process guidance and supervision over the Company's centralized procurement business. Strictly according to national laws and regulations, it formulated and implemented core systems such as the *Procurement Management Measures*, *Supplier Management Regulations*, and the *Strategic Procurement Management Regulations*, providing solid institutional support for supply chain compliance management and risk prevention and control.

Strategy

The Company comprehensively integrates sustainable development philosophy into its supply chain management strategy; taking digital upgrading and cooperative ecosystem construction as grasps, it builds a risk-sharing and benefit-sharing supply chain system, supporting the high-quality development of the enterprise and the synergistic sustainable development of upstream and downstream partners. Strictly according to *Comprehensive Risk Management Measures*, it advanced the full-cycle control of supply chain risks; in 2025, it released the annual major risk assessment report, clarifying supplier-related risk items and key control points, and implementing tiered control responsibilities.

Supplier ESG Management

Through contract clauses, the Company clarified the requirements for suppliers to fulfill social responsibilities and focused on carrying out full-process supervision and guidance around the three dimensions of labor safety, protection of migrant workers' rights and interests, and environmental protection.

Labor safety and occupational security

Requiring suppliers to implement occupational safety and health security measures, increase safety investments, improve safety facilities, normally carry out safety training, lawfully pay work-related injury insurance and accidental injury insurance in full for migrant workers, strictly prevent safety accidents, and reduce occupational hazards.

Maintenance of migrant workers' rights and interests

Requiring suppliers to strictly implement regulations on the payment of migrant workers' wages, execute systems such as dedicated wage accounts, deposits, and wage distribution by general contractors on behalf of others, and ensure that wages are paid in full and on time; comprehensively implementing the real-name employment system, standardizing the signing of labor contracts, and protecting the legitimate rights and interests of migrant workers.

Environmental protection

Setting special environmental protection clauses in contracts, requiring suppliers to strictly abide by environmental protection laws and regulations, and comprehensively implement prevention and control requirements for pollutants such as atmosphere, water, soil, and noise.

Meanwhile, during the supplier admission stage, the Company carries out special training on labor rights and interests and environmental protection, normally organizes publicity and education annually, and strengthens responsibility awareness through manuals and online courses; adhering to transparent procurement and promoting integrity co-construction, it builds a clean and upright cooperative ecosystem by signing integrity clauses, issuing notices, and holding symposiums.

Transparent Procurement

The Company built the CREC e-commerce procurement platform (CREC Luban E-commerce Network), constructed a full-process transparent procurement system, and launched the risk prevention and control center to achieve closed-loop management of pre-event reminders, in-process warnings, and post-event rectifications for procurement risks, driving compliance control to be deeply embedded into business processes. Relying on intelligent tools such as the "Lu Xiaobao" large model and the "Document Checking Assistant", the platform automatically identifies non-compliant content in bidding documents, achieving a transition in risk control from "human monitoring" to "technological prevention", and enhancing transaction fairness and risk prevention and control capabilities.

In 2025, the platform built a master data intelligent matching model, and integrated historical data with national and industry standards to form a knowledge base, enhancing the precise search capability for core materials; it launched the "Smart Bidding" tool to achieve standardization of the bidding process and reduce human intervention, while synchronously exploring the "Assisted Bid Evaluation" agent to optimize the review model through AI empowerment. The platform integrates full-chain data, achieving full-process traceability and controllable risks.

By the end of 2025, the platform served 48 secondary companies and over 30,000 projects, with 563,700 certified suppliers and 143,000 active suppliers; its annual transaction volume exceeded RMB 857.8 billion, and its historical cumulative transaction volume reached RMB 4.57 trillion.

By the end of 2025

563,700
Certified suppliers

143,000
Active suppliers

Annual transaction volume exceeded
RMB **857.8** billion

Historical cumulative transaction volume reached
RMB **4.57** trillion

Supplier Communication

To enhance supply chain management efficiency, the Company systematically carried out special training for supply chain talents, covering the full procurement process, risk and compliance management, and the application of frontier technologies, thus building a compound professional talent team. It strengthened the supervision and assessment mechanism for the full procurement process, clarified assessment standards, dynamically monitored key nodes, and established a responsibility traceability system, guaranteeing the standardized and efficient operation of procurement business.

2025 Special Training Class on Procurement and Whole Life-cycle Business Management, and Safety Management of China Railway Material Trade Group

Case

Supply Chain Ecosystem Conference

On August 7, 2025, the Company held the Supply Chain Ecosystem Conference, inviting 131 suppliers to participate; it released annual procurement demands, awarded plaques to 30 high-quality partners, and carried out special promotions around the Luban Platform, the JWW.com Platform, strategic emerging industries, industrial products, supply chain finance, and smart logistics. The conference promoted resource integration, assisted in constructing a new efficient, intelligent, and sustainable supply chain ecosystem for the construction industry, and accelerated the transformation of the Company into a digitalized platform-type integrated service provider.

Impact, Risk and Opportunity Management

Taking the digitalized platform as a cornerstone, the Company implemented systematic identification and penetrating control of sustainable development risks in the supply chain; empowering sustainable procurement with science and technology, it precisely grasped the opportunities for supply chain transformation and upgrading, achieving bidirectional efforts in risk prevention and control and quality and efficiency improvement.

Supplier Management Process

Supplier Admission

Establishing a sound supplier admission and evaluation management system, the Company conducts admission reviews for qualified suppliers, focusing on examining suppliers' performance in integrity-based operation, work safety, and environmental protection to strictly control source risks; suppliers passing the review are included in the qualified supplier directory.

Supplier Assessment

Regularly conducting comprehensive supplier reviews, the Company comprehensively evaluates supplier performance by combining daily evaluations during the performance process with annual evaluations and incorporates the evaluation results into the annual assessment system. Based on the evaluation model of the Luban Platform, it conducts dynamic evaluations combining daily and annual assessments to eliminate unqualified suppliers.

Supplier Quality Management

In supplier process management, the Company pays particular attention to newly selected suppliers, strictly implements system construction requirements, and strengthens clauses such as safety and quality in contracts, with Tier-3 subsidiaries and operation centers conducting official briefings on centralized procurement plans, technical standards, safety production responsibilities, and compensation mechanisms..

Supplier Exit

Establishing a negative list of suppliers' bad behaviors, the Company takes control measures such as issuing warnings, restricting bidding, suspending cooperation, or revoking qualifications against suppliers with bad behaviors.

Case

Supply Chain Financial Services of the JWW.com

The JWW.com under CREC provides users with financial services covering multiple forms such as bill discounting and accounts receivable financing. Among them, the "Jimiaotie" module achieves online bill inquiry and one-click discounting through direct bank connection; in 2025, it completed 691 discount transactions amounting to RMB 2.803 billion, reducing financing costs by RMB 3.2766 million. The "Payment Agency" module assists in the rapid realization of accounts receivable based on authentic transactions; in 2025, it facilitated 397 financing transactions amounting to RMB 951 million, realizing cash collection of RMB 283 million for engineering bureaus. The two types of services effectively alleviated suppliers' financial pressure, improved turnover efficiency, reduced transaction costs, enhanced supply chain synergy, and assisted in the highly efficient linkage and win-win development of upstream and downstream partners in the industry chain.

Indicators and Targets

The Company implements classified and tiered management of suppliers, identifying supply chain risks and opportunities through processes such as admission and evaluation, and tracking rectification through a combination of quantitative and qualitative targets to achieve closed-loop management. Leveraging the Luban Platform, the Company conducts supplier satisfaction surveys and has established a full closed-loop mechanism for handling complaints and suggestions. Based on feedback, it has formulated three improvement initiatives—optimising feedback nodes, enhancing platform functionality, and strengthening intelligent services—using technology to streamline processes, improve service efficiency and continuously enhance the supply chain collaboration ecosystem.

In 2025

Total number of suppliers

97,966 suppliers

Satisfaction rate reached

96%

Building Harmonious Communities

CREC actively fulfills the social responsibilities of a central SOE and anchors the goal of building harmonious communities characterized by extensive consultation, joint contribution, and shared governance; deeply integrating into the overall development of domestic localities and overseas project host areas, it makes continuous efforts in emergency rescue and disaster relief, rural revitalization, public welfare assistance, volunteer services, and fulfillment of responsibilities in overseas localities, thereby earnestly benefiting community residents with enterprise development achievements and joining hands to build harmonious and happy homes.

Supporting Rural Revitalization

The Company deeply implements General Secretary Xi Jinping's important discourses on work related to agriculture, rural areas, and farmers, earnestly fulfills its assistance responsibilities, orderly advances the implementation of various tasks, and solidly drives the effective connection between consolidating and expanding the achievements of poverty alleviation and rural revitalization, thereby continuously contributing China Railway's strength to promoting agricultural and rural modernization and accelerating the building of an agricultural powerhouse. In April 2025, the Company held the annual work conference on rural revitalization and counterpart support to study and discuss the 2025 fund usage plan and the implementation scheme for key assisted construction projects; it clarified that centering on the theme of "five major revitalizations" and focusing on the "four major events" of Tibet assistance, it would select optimal assistance projects, strengthen training empowerment, and deepen consumption assistance based on its own advantages and the resource endowments of the assisted areas, thereby accomplishing the annual objectives with high quality.

Educational Support and Vocational Skills Training

The Company actively responds to the SASAC's "Central SOEs Talent Development for Rural Revitalisation" initiative, combining motivation-building and capability-building, and driving rural development through both education empowerment and talent cultivation, injecting sustainable momentum into rural development and supporting long-term prosperity.

The Company built a drone operation training base at Rucheng Vocational Middle School and established urgently needed majors such as drones and surveying; with 57 students enrolled in the first session, the teaching results were remarkable, it provided a channel for youths in mountainous areas to become useful talents.

Employment rate reached

92.9%

A total investment of

RMB **4** million

The "Good Driver of Baode" employment brand created in Baode County, Shanxi Province adopted an integrated assistance approach of "training - certification - employment"; by providing special driving training, assisting trainees in obtaining driver's licenses, and recommending employment, it has driven over a thousand people to secure employment and significantly increased the average annual income per household, thus becoming a replicable model for skill-based assistance.

From July 21 to 27, 2025, CREC held the fifth training session on rural revitalization in Xiamen and Longyan, Fujian Province. A total of 45 township officials and county-level department officials from Rucheng County and Guidong County, Chenzhou City, Hunan Province, and Baode County, Xinzhou City, Shanxi Province, participated in the entire training program.

Agricultural Support and Industrial Development

The Company leverages the resource endowments of assisted regions, develops characteristic agricultural industries tailored to local conditions, and supports industrial revitalisation and increased farmer incomes through technology introduction, value chain extension and industrial integration.

In continuously building the distinctive brand of Baimao Tea in Rucheng County, Hunan Province, the Company added 30 mu of seedling bases and 1,200 mu of high-standard tea gardens in 2025, established a "parent-subsidiary trademark" system, and explored innovative models such as contract farming; the support case was selected into the *Blue Book on Environmental, Social and Governance (ESG) for Listed Companies of Central State-owned Enterprises*.

Focusing on the core shortcomings of "insufficient primary industry standardization and weak secondary industry processing capability" in Guidong County, Hunan Province, the Company constructed a full-chain system taking the cold-water rice industry as a breakthrough point; synchronously introducing smart agricultural technologies to empower the production end, it built a characteristic industrial base for high-mountain cold-water rice in Heping Terraces, increasing the average yield per mu to 625 kilograms, representing a yield increase of over 20% compared to traditional planting models.

The 5 MW Pioneer Photovoltaic Power Station invested in Baode County, Shanxi Province cumulatively generated 5.92 million kWh of electricity throughout the year, generating a revenue of RMB 2 million; it built 21,000 mu of high-standard farmland, benefiting 28 administrative villages across 5 townships.

Infrastructure Construction and Livelihood Improvement

Fully leveraging its advantages in infrastructure construction, the Company improved traffic conditions, strengthened human settlement environment governance, and enhanced village appearances to assist in rural transformation; by enabling villagers to genuinely experience the new changes of convenient transportation, beautiful environments, and affluent lives, it made a significant and profound contribution to the rural revitalization.

The Yunyang District High-standard Farmland Project of China Railway No. 10 Engineering Group solves the bottlenecks of mountain agriculture through systematic construction

Case

Harmonious and Beautiful Rural Water Vein Guarding Plan

In December 2025, CREC and Xinhuanet jointly launched the "Harmonious and Beautiful Rural Water Vein Guarding Plan" to improve rural water ecological environments and drive rural revitalization. The Company is committed to significantly improving the water vein health conditions of 1,000 villages between 2026 and 2030 and building 100 industrial revitalization demonstration points of "Beautiful Water Villages". Furthermore, the Company is dedicated to cultivating a specialized rural water steward team of over 10,000 personnel, and systematically unearthing and disseminating rural water vein culture, thereby driving the comprehensive enhancement of rural ecological, economic, and cultural values.

Deepening Assistance to Xinjiang and Tibet

Resolutely serving the national strategies of assisting Xinjiang and Tibet, CREC deeply cultivates the border areas of Xinjiang and Tibet; taking the primary business of infrastructure construction as its core, it advances the construction of major transport projects and livelihood projects such as education and medical care with high quality. Strictly guarding the ecological protection red line during construction, the Company actively drives local employment and cultivates skilled local talents to fortify the foundation of border development, thereby assisting coordinated regional development and rural revitalization.

In June 2025, the Tibet Autonomous Region Hospital constructed by CREC was officially opened in Lhasa; as one of the "Three Major Livelihood Projects" supporting Tibet's development, it mainly undertakes the diagnosis and treatment of difficult, critical, and severe diseases as well as emergency rescue tasks for sudden public events across the region, achieving the goal of "treating major diseases within Tibet".

Since July 2022, CREC has invested a total of RMB 76.75 million in counterpart assistance to Karuo District, Qamdo, Tibet, and dispatched multiple officials on aid-Tibet missions; it has focused on building and putting into operation a batch of infrastructure and public service facilities such as township schools and health centers, substantially improving the production and living conditions of the masses in agricultural and pastoral areas.

China Railway participated in the construction of China's first "Gobi, desert and arid region" large-scale base outbound transmission project—the Xinjiang Huadian Tianshan Northern Foothills Base, integrating wind, solar, thermal power and energy storage into a unified system, transmitting 14.2 billion kWh of green electricity to the Central China region annually, equivalent to reducing carbon dioxide emissions by 11.72 million tons, successfully turning the Gobi Desert into an "energy oasis".

Case

Earthquake Relief and Post-Disaster Reconstruction in Tingri County, Tibet

On January 7, 2025, a 6.8-magnitude earthquake struck Tingri County, Tibet, resulting in significant casualties and the collapse of numerous buildings. CREC promptly established a frontline headquarters for earthquake relief, coordinated the resources and personnel of its projects in Tibet, and actively mobilized human and material resources for emergency rescue operations, thereby ensuring the basic living needs and a warm winter for the affected population to the greatest extent possible.

On October 22, 2025, the resettlement housing project in Cuo'ang Village, Tingri County, Tibet assisted by CREC was comprehensively delivered, and 104 disaster-affected households happily moved into their new homes. Adopting the personalized design of "one coordinate per household" and the model of "transparent construction + local participation", the Company synchronously improved infrastructure such as roads, water supply, power supply, and enclosing walls, comprehensively improving the living conditions of residents.

Emergency Rescue and Disaster Relief

The Company attaches great importance to emergency management, continuously advances the base construction and equipment upgrading of the three national professional emergency rescue teams in Kunming, Guiyang, and Tibet, and coordinately handles personnel replenishment, command system optimization, coordination mechanism improvement, infrastructure supporting, rule and regulation perfection, training and drill strengthening, and guarantee system construction, thereby significantly enhancing the bases' capabilities in professional rescue, rapid mobility, and comprehensive guarantee. In 2025, the Company went all out in emergency rescue and disaster relief, successively participating in major rescue operations including the Tingri earthquake in Tibet, the Myanmar earthquake, and the Junlian landslide in Yibin, Sichuan Province, earning widespread praise from leaders of the State Council, SASAC, the Ministry of Emergency Management, and various sectors of society.


CREC actively participated in the emergency rescue of the landslide in Junlian, Sichuan Province



北京市人民政府

感谢信


CREC fully participated in flood control and emergency rescue in Miyun, Beijing, receiving a letter of thanks from the Beijing Municipal People's Government

CREC fully supported the fire relief and resettlement in Tai Po, Hong Kong

Practicing Public Welfare and Charity

Guided by a spirit of care, the Company actively practices volunteerism by carrying out the "Thousands of People, Hundreds of Teams" volunteer service initiative. Activities focus on disaster relief donations, student support during examinations, elderly care, and assistance for persons with disabilities, delivering warmth and support and contributing positive energy to society. In 2025, the Company organised more than 1,500 youth volunteer service activities, with over 15,000 participations by young employees and more than 30,000 beneficiaries supported.

The 2025 national "Hundred Sessions of Awareness Campaigns on Care and Protection of Left-Behind Children Entering Construction Sites" and the central SOEs' "Together Safeguarding the Future" initiative were held at a China Railway Construction Engineering Group project site

China Railway No. 9 Engineering Group sponsored the "Civilization Practice in My Action" volunteer activity

The youth service team of China Railway Sixth Group carries out disability assistance activities

During International Children's Day, volunteers from China Railway No. 4 Engineering Group went to the Second Hospital of Anhui Medical University to carry out condolence activities, donating over 260 loving gifts to hospitalized children and engaging in companionship, communication, and interactive activities, for which they were awarded the "Loving Devotion Award".

China Railway Tunnel Group organized a team of youth volunteers to specially visit and console Wei Shijie, the "elder of nuclear weapons" who made outstanding contributions to China's nuclear arsenal cause.

Safeguarding Cultural Heritage

The Company actively engages in the protection and inheritance of cultural heritage, overcomes the technical difficulties in the integration of cultural heritage protection and modern science and technology, and innovatively applies scientific protection methods, providing a "CREC Solution" for inheriting Chinese civilization and enhancing cultural confidence.

Case

Scientifically Safeguarding Thousand-Year Buddhist Images and Continuing the Bloodline of Bashu Civilization

Addressing the compound diseases of over 3,000 Tang Dynasty statues at the Qianfoyan Grottoes in Tongjiang, the team of China Railway Wenbao Technological Innovation innovatively constructed a "four-in-one" scientific protection system; through precise diagnosis, targeted restoration, digital preservation, and dynamic monitoring, it achieves a balance between cultural heritage protection and historical information preservation, allowing the thousand-year-old statues to regain their radiance. The team developed 2 national utility model patents and formed relevant engineering technical reports, assisting the construction of the scientific and technological demonstration base for grottoes in Sichuan and Chongqing. The project was rated as the only high-quality cultural relic protection project in Sichuan Province in 2025, becoming a model for central SOEs in safeguarding the roots of stone civilization.

The Qianfoyan Grottoes in Tongjiang after being technically protected by China Railway Wenbao Technological Innovation

Fulfilling Overseas Responsibilities

Adhering to the principle of extensive consultation, joint contribution and shared benefits, the Company injects sustainable momentum into the development of host countries through measures such as employment promotion, technological empowerment, talent cultivation, emergency rescue and disaster relief, volunteer services, and ecological co-construction, thereby establishing the image of a responsible and accountable international enterprise.

Case

The "Demonstration New Village" in the DRC: CREC Assists Rural Revitalization in the Democratic Republic of the Congo

Responding to the "Hundreds of Enterprises Aiding Thousands of Villages" initiative, SICOMINES SARL under CREC invested USD 14.4 million to build a comprehensive community integrating public facilities, roads, water and electricity supply, and industrial supporting facilities in Yinge Village. Once completed, the project will directly benefit nearly 200 households; by constructing a "planting-processing-breeding" industry chain, it cultivates the endogenous development momentum of the community and forms a sustainable rural economic model.

In terms of agricultural industry support, by providing key means of production and transferring planting technologies, the Company effectively improved land output and farmers' income, directly supporting the livelihoods of about 250 households in 5 communities, which generated tangible benefits for guaranteeing community food security and enhancing agricultural resilience.

In the field of health care, the Company successfully built and delivered a brand-new hospital and a health center to the community, effectively reducing medical risks, elevating the level of maternal and child health, and assisting vulnerable groups, thereby overall enhancing the regional capabilities in primary surgical diagnosis and treatment and maternal and child health care.

Furthermore, the Company improved the teaching environment and sanitary conditions for teachers and students and enhanced the safety security and teaching functions of the campus, exerting a sustainable and positive effect on guaranteeing educational continuity, maintaining campus safety, and supporting children's development.

After the successful delivery of the project, the Mayor of Idiofa subsequently awarded an honorary certificate to the project team to commend their highly efficient execution and organizational capabilities. Furthermore, the Dean of Kikwit Hospital also sent a letter of gratitude, stating that the project will greatly elevate the level of regional medical services.

The "Revitalizing Agriculture in DRC and Benefiting Yinge Village" Dream Realization Action hired technical experts to guide Yinge villagers in planting corn

Adhering to localized operation, China Railway No. 9 Engineering Group employed over 5,000 African staff, thereby creating a large number of direct jobs for the local communities. Meanwhile, through mentorship programs, the Company transferred advanced construction technologies and management experience to foreign employees, enabling them to grow into technical cadres.

The East Africa Company of China Railway Construction Engineering Grouptrained over 400 local technical personnel at the project sites in Dar es Salaam and Dodoma, Tanzania, driving the localized application of Chinese technical standards overseas.

The Dominica International Airport Project of China Railway No. 5 Engineering Group held the "Silk Road Youth, Walking with China Railway No. 5 Engineering Group Co., Ltd." youth volunteer service action at the local Portsmouth Secondary School.

China Railway No. 2 Engineering Group participates in earthquake rescue in Mandalay, Myanmar

Future Outlook

Standing at a new historical starting point as we embark on the journey of the "15th Five-Year Plan," CREC will remain deeply committed to the nation's most critical priorities. With the goal of building a world-class enterprise, we will focus our efforts on forging a national champion that shoulders significant responsibilities, a trailblazer leading infrastructure development, an industry chain leader driving green transformation, a globally respected multinational corporation, and a modern enterprise trusted by society. By actively fulfilling our mission in supporting major national strategies, advancing global infrastructure connectivity, and promoting harmony between humanity and nature, we will continue to make new strides. CREC is dedicated to contributing its enduring strength to the sustainable development of the economy and society, as well as to shared prosperity around the world.

Appendices

Appendix I: Key Performance Table

	Indicator	2025	Unit
Greenhouse Gas (GHG)	Scope 1 GHG emissions	6,120,704	tons of CO_2 equivalent
	Scope 1 GHG emission intensity	0.06	tons of CO_2 equivalent / RMB 10,000
	Scope 2 GHG emissions	8,033,268	tons of CO_2 equivalent
	Scope 2 GHG emission intensity	0.07	tons of CO_2 equivalent / RMB 10,000
	Total GHG emissions (Scope 1 + Scope 2)	14,154,000	tons of CO_2 equivalent
	Total GHG emission intensity (Scope 1 + Scope 2)	0.1319	tons of CO_2 equivalent / RMB 10,000
	Investment in GHG reduction funds	661.5	RMB million
Pollutant Emisson	Air emissions	51.56	tons
	Sulfur dioxide (SO_2) emissions	0.55	tons
	Nitrogen oxide (NO_x) emissions	5.33	tons
	Volatile organic compound (VOCs) emissions	11.66	tons
	Particulate matter (smoke and dust) emissions	34.01	tons
	Wastewater discharge	82,432,600	tons
Waste Disposal	Hazardous waste emissions	1,888	tons
	Hazardous waste intensity	0.018	kg/RMB 10,000
	Non-hazardous waste disposal rate	100	%
	Non-hazardous waste emissions	4,857,700	tons
	Non-hazardous waste intensity	0.044	ton/RMB 10,000
	Non-hazardous waste disposal rate	100	%
Environmental Compliance Management	Number of major environmental accidents	0	time
	Number of drills for environmental emergencies in the year	12,199	times
	Environmental protection investment	1,938	RMB million
	Environmental protection training sessions	46	sessions
Utilization of Energy	Total energy consumption	3,944,602	tons of standard coal
	Energy intensity	0.036	tons of standard coal/ RMB 10,000
	Gasoline consumption	443,736	tons
	Diesel consumption	1,329,860	tons

Indicator			2025	Unit
Utilization of Energy	Coal consumption		116,060	tons
	Natural gas consumption		64,930,000	m^3
	Heat consumption		45,590	GJ
	Electricity consumption		9,578.41	GWh
	Electricity consumption intensity		87.56	kWh/RMB 10,000
	Consumption of renewable resources		355,014	tons of standard coal
Water Resource Utilization	Water consumption		371,839,400	m^3
	Water intensity		3.40	m^3/ RMB 10,000
	Recycled water volume		148,736,000	m^3
Employees	Total number of employees		289,250	persons
	Total number of employees by employment type	Full-time	289,250	persons
		Part-time	0	persons
	Number of employees by level	Senior professional titles (including senior professional)	57,115 (6,128)	persons
		Intermediate professional titles	85,681	persons
		Assistant-level professional title	71,997	persons
		Employees at the clerk level and below	17,519	persons
		Others	56,938	persons
	Total number of employees by gender	Male	241,470	persons
		Female	47,780	persons
	Total number of employees by age	Under 35 years old	117,043	persons
		35-50 years old	115,648	persons
		Over 50 years old	56,559	persons
	Total number of employees by region	Domestic	283,486	persons
		Overseas	5,764	persons
	Total number of employees by educational background	College degree and below	83,500	persons
		Bachelor's degree	188,414	persons
		Master's degree	16,898	persons
		Doctoral degree	438	persons

Indicator			2025	Unit
Employees	Proportion of women in senior management		2.3	%
	Total number of ethnic minority employees		12,717	persons
	Total number of newly recruited employees		9,346	persons
	Percentage of labor contract coverage		100	%
	Average paid annual leave days per person		10	days
	Social insurance coverage		100	%
	Work-related injury insurance coverage		100	%
	Employee turnover rate		2.75	%
	Employee turnover rate by gender	Male	89.5	%
		Female	10.5	%
	Employee turnover rate by age	Under 35 years old	86.9	%
		35-50 years old	11.6	%
		Over 50 years old	1.5	%
	Employee turnover rate by region	Mainland China	98.03	%
		Overseas regions and Hong Kong, Macao, and Taiwan	1.97	%
Occupational Health and Safety (OHS)	Number of employees with newly diagnosed occupational diseases		0	person
	Major work safety liability accidents		1	incident
	Physical examination coverage rate		100	%
	Workdays lost due to work-related injuries[1]		0	day

[1] Statistical scope covers employees at China Railway headquarters

Indicator			2025	Unit
Occupational Health and Safety (OHS)	Newly added occupational disease cases		0	person
	Investment in work safety		23,547	RMB million
Staff Training and Development	Total annual training investment		37,896.8	RMB 10,000
	Number of training sessions conducted		1,600	times
	Total number of employees trained		289,250	persons
	Training participation rate		100	%
	Percentage of trained employees by gender	Male	83.5	%
		Female	16.5	%
	Average training hours by gender	Male	160	hours
		Female	150	hours
	Total number of employees trained by employee category	Senior management	573	persons
		Middle management	8,700	persons
		General management	116,000	persons
		Frontline staff	163,977	persons
	Average training hours by employee category	Senior management	190	hours
		Middle management	185	hours
		General management	150	hours
		Frontline staff	140	hours

Indicator		2025	Unit
Innovation-driven Development	Total R&D investment	22,520	RMB million
	R&D investment as percentage of core business revenue	2.06	%
	Number of R&D personnel	36,912	persons
	Proportion of R&D personnel to the total number of employees	12.76	%
	National key scientific research projects undertaken	7	items
	Number of core papers published	1,061	articles
	Number of patents held	48,029	items
	Number of patents authorized	8,540	items
	Number of invention patents	3,624	items
	Number of overseas patents	194	items
	Number of software copyrights obtained	906	items
	Contract review rate	100	%
Product and Service Safety and Quality	Number of complaints about products and services	0	case
	Number of incidents involving infringement of customer privacy and information security	0	case
	Number of complaints from customers	0	case
Supply Chain Security	Total number of suppliers	97,966	suppliers
	Total number of Chinese suppliers	91,948	suppliers
	Number of suppliers from Hong Kong, Macau, and Taiwan	808	suppliers
	Number of overseas suppliers	5,210	suppliers

Indicator		2025	Unit
Rural Revitalization	Total investment amount in poverty alleviation and rural revitalization	87.60	RMB million
Social Contributions	Total amount of public welfare donations	9.24	RMB million
Anti-commercial Bribery and Anti-corruption	Number of corruption lawsuits filed	15	items
	Number of directors receiving anti-corruption training	8	persons
	Average hours of anti-corruption training received by directors	8	hours
	Number of employees participating in anti-bribery and anti-corruption training	136,216	persons
	Average hours of anti-corruption training received by employees	4	hours
	Amount involved in cases caused by the Company's unfair competition practices	0	RMB 10,000
Economic Performance	Total assets	2,470.58	RMB billion
	Operating revenue	1,093.49	RMB billion
	Amount of newly signed contracts	2,750.9	RMB billion
	Total profit	33.54	RMB billion
	Net profit	26.347	RMB billion
	Total tax payment	35.078	RMB billion
Corporate Governance	Number of directors	7	persons
	Number of female directors	1	person
	Proportion of female directors	14.3	%
	Number of Nomination Committee meeting	3	times
	Number of Board Meetings held	11	times
	Number of Shareholders' Meetings held	1	time

Appendix II Indicator Index of Guidelines No.14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)

Dimension	SN	Topics	Corresponding Article	Report Chapter
Environment	1	Respond to Climate Change	Article 21-Article 28	Responding to Climate Change
	2	Pollutant Emissions	Article 30	Air Emissions Management
	3	Waste Management	Article 31	Waste Management
	4	Ecosystem and Biodiversity Conservation	Article 32	Protecting Natural Ecosystems
	5	Environmental Compliance Management	Article 33	Strengthening Environmental Management
	6	Energy Utilization	Article 35	Energy Management
	7	Water Utilization	Article 36	Water Resource Management
	8	Circular Economy	Article 37	Circular Economy
Social	9	Rural Revitalization	Article 39	Supporting Rural Revitalization
	10	Social Contribution	Article 40	Building Harmonious Communities
	11	Innovation Drive	Article 42	Strengthening Technological Innovation
	12	Ethics in Technology	Article 43	Not Applicable
	13	Supply Chain Security	Article 45	Strengthening Supply Chain Collaboration
	14	Equal Treatment of Small and Medium-sized Enterprises	Article 46	Lawful and Compliant Operations
	15	Product and Service Safety and Quality	Article 47	Forging Craftsmanship Quality
	16	Data Security and Customer Privacy Protection	Article 48	Information Security and Privacy Protection
	17	Employee	Article 50	Fostering Employee Growth
Governance Related to Sustainable Development	18	Due Diligence	Article 52	Strengthening Supply Chain Collaboration
	19	Stakeholder communication	Article 53	Stakeholder Communication
	20	Anti-commercial Bribery and Corruption	Article 55	Anti-Commercial Bribery and Anti-Corruption
	21	Anti-unfair Competition	Article 56	Anti-Unfair Competition

Appendix III Indicator Index of Environmental, Social and Governance Reporting Code issued by the Stock Exchange of Hong Kong Limited

Environmental, Social and Governance Aspects and General Disclosures & Key Performance Indicators (KPIs)			Report Chapter
Environment			
A1: Emissions	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Reducing Pollutant Emissions
	A1.1	The types of emissions and respective emissions data.	Air Emissions Management Appendix I Key Performance Table
	A1.3	Total hazardous waste produced and intensity.	Waste Management Appendix I Key Performance Table
	A1.4	Total non-hazardous waste produced and intensity.	Waste Management Appendix I Key Performance Table
	A1.5	Description of emission target(s) set and steps taken to achieve them.	Environmental Management System
	A1.6	Description of how hazardous and non hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Waste Management
A2: Use of Resources	General disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Energy Management
	A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total and intensity.	Energy Management Appendix I Key Performance Table
	A2.2	Total water consumption and intensity.	Water Resource Management Appendix I Key Performance Table
	A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Energy Management
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Water Resource Management
	A2.5	Total packaging material used for finished products, and with reference to per unit produced.	Not Applicable
A3: Environment and Natural Resources	General disclosure	Policies on minimising the issuer's significant impacts on the environment and natural resources	Protecting Natural Ecosystems
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Protecting Natural Ecosystems
Social			
B1: Employment	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Standardizing Employee Recruitment
	B1.1	Total workforce by gender, employment type, age group and geographical region.	Standardizing Employee Recruitment Appendix I Key Performance Table
	B1.2	Employment turnover rate by gender, age group and geographical region.	Appendix I Key Performance Table

Environmental, Social and Governance Aspects and General Disclosures & Key Performance Indicators (KPIs)			Report Chapter
B2: Health and Safety	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Strengthening the Foundation of Safety
	B2.1	Number and rate of work-related fatalities occurred in each of the past three years.	Strengthening the Foundation of Safety
	B2.2	Lost days due to work injury.	Appendix I Key Performance Table
	B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Strengthening the Foundation of Safety
B3: Development and Training	General disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Building Development Platforms
	B3.1	The percentage of employees trained by gender and employee category.	Building Development Platforms Appendix I Key Performance Table
	B3.2	The average training hours per employee by gender and employee category.	Building Development Platforms Appendix I Key Performance Table
B4: Labor Standards	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Standardizing Employee Recruitment
	B4.1	Description of measures to review employment practices to avoid child and forced labour.	Standardizing Employee Recruitment
	B4.2	Description of steps taken to eliminate such practices when discovered.	Standardizing Employee Recruitment
B5: Supply Chain Management	General disclosure	Policies on managing environmental and social risks of the supply chain.	Strengthening Supply Chain Collaboration
	B5.1	Number of suppliers by geographical region.	Appendix I Key Performance Table
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Strengthening Supply Chain Collaboration
	B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Strengthening Supply Chain Collaboration
	B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Strengthening Supply Chain Collaboration
B6: Product Responsibility	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Forging Craftsmanship Quality
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Not Applicable
	B6.2	Number of products and service related complaints received and how they are dealt with.	High-Quality Customer Service
	B6.3	Description of practices relating to observing and protecting intellectual property rights.	Protecting Intellectual Property
	B6.4	Description of quality assurance process and product recall procedures.	Protecting Intellectual Property
	B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Information Security and Privacy Protection

Environmental, Social and Governance Aspects and General Disclosures & Key Performance Indicators (KPIs)			Report Chapter
B7: Anti-corruption	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Anti-Commercial Bribery and Anti-Corruption
	B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Anti-Commercial Bribery and Anti-Corruption Appendix I Key Performance Table
	B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Anti-Commercial Bribery and Anti-Corruption
	B7.3	Description of anti-corruption training provided to directors and staff.	Appendix I Key Performance Table
B8: Community Investment	General disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Building Harmonious Communities
	B8.1	Focus areas of contribution.	Appendix I Key Performance Table
	B8.2	Resources contributed to the focus area.	Appendix I Key Performance Table

Climate-Related Disclosure Indicators		Related Chapter
Governance	Disclose the governing body or individual responsible for oversight of climate-related risks and opportunities, including how competency is available, the frequency and manner of being informed about risks and opportunities, how they are considered in decision-making, oversight of target setting and progress towards targets, as well as the management's role in relevant processes and integration with internal functions.	Responding to Climate Change — Governance
Strategy-Business model and value chain	Describe the current and anticipated effects of climate-related risks and opportunities on the business model and value chain, identifying areas of concentration.	Responding to Climate Change — Strategy
Strategy-Strategy and decision-making	Disclose strategies and plans to address risks and opportunities, including changes to the business model, adaptation or mitigation efforts, transition plans, methods to achieve climate targets, plans of resource allocation for actions, and progress against previous plans.	Responding to Climate Change — Strategy
Strategy-Financial position, financial performance and cash flows	Disclose the current and anticipated financial impacts of climate-related risks and opportunities on the issuer's financial position, financial performance, and cash flows during the reporting period.	Responding to Climate Change — Strategy
Strategy-Resilience	Disclose the Company's assessment of its climate resilience and the conduct of climate-related scenario analysis.	Responding to Climate Change — Strategy
Risk Management	Disclose the processes and policies used to identify, assess, prioritise, and monitor climate-related risks and opportunities, as well as how these risks and opportunities are integrated into the company's overall risk management framework.	Responding to Climate Change — Risk and Opportunity Management
Metrics and Targets-Greenhouse gas emissions	Disclose the absolute gross greenhouse gas emissions for Scope 1, Scope 2, and Scope 3 during the reporting period. The disclosure should specify the measurement methodologies, input data, assumptions, and reasons for any changes. Additionally, disclose Scope 2 emissions using the location-based method and indicate the categories included in Scope 3.	Responding to Climate Change — Indicators and Targets
Metrics and Targets-Climate-related targets	Disclose qualitative and quantitative climate-related targets, including metrics used to set the target, purpose, scope of application, time frame, baseline period, interim targets, target type, and linkage to international agreements. Disclose the methodology for setting and reviewing targets, metrics for monitoring progress toward targets, and analysis of target performance and trends. For greenhouse gas emission targets, disclose the types of gases covered, scope, and gross or net target amount.	Responding to Climate Change — Indicators and Targets

Appendix IV Terms and definitions

	Short Name	Full Name
1	CREC/Company/We	China Railway Group Limited
2	China Railway First Group	China Railway First Group Co., Ltd.
3	China Railway No. 2 Engineering Group	China Railway No. 2 Engineering Group Co., Ltd.
4	China Railway No. 3 Engineering Group	China Railway No. 3 Engineering Group Co., Ltd.
5	China Railway No. 4 Engineering Group	China Railway No. 4 Engineering Group Co., Ltd.
6	China Railway No. 5 Engineering Group	China Railway No. 5 Engineering Group Co., Ltd.
7	China Railway Sixth Group	China Railway Sixth Group Co., Ltd.
8	China Railway Seventh Group	China Railway Seventh Group Co., Ltd.
9	China Railway No. 8 Engineering Group	China Railway No. 8 Engineering Group Co., Ltd.
10	China Railway No. 9 Group	China Railway No. 9 Group Co., Ltd.
11	China Railway No. 10 Engineering Group	China Railway No. 10 Engineering Group Co., Ltd.
12	China Railway Major Bridge Engineering Group	China Railway Major Bridge Engineering Group Co., Ltd.
13	China Railway Tunnel Group	China Railway Tunnel Group Co., Ltd.
14	China Railway Electrification Engineering Group	China Railway Electrification Engineering Group Co., Ltd.
15	China Railway Wuhan Electrification Engineering Group	China Railway Wuhan Electrification Engineering Group Co., Ltd.
16	China Railway Construction Engineering Group	China Railway Construction Engineering Group Co., Ltd.
17	China Railway Guangzhou Engineering Group	China Railway Guangzhou Engineering Group Co., Ltd.
18	China Railway Beijing Engineering Group	China Railway Beijing Engineering Group Co., Ltd.
19	Shanghai Civil Engineering Co., Ltd. of CREC	Shanghai Civil Engineering Co., Ltd. of CREC
20	China Railway Investment Group	China Railway Investment Group Co., Ltd.
21	China Railway South Investment Group	China Railway South Investment Group Co., Ltd.
22	China Railway Communications Investment Group	China Railway Communications Investment Group Co., Ltd.
23	China Railway Yunnan Construction Investment	China Railway Yunnan Construction Investment Co., Ltd.
24	China Railway City Development and Investment Group	China Railway City Development and Investment Group Co., Ltd.
25	China Railway (Shanghai) Investment	China Railway (Shanghai) Investment Co., Ltd.
26	China Tiegong Investment & Construction Group	China Tiegong Investment & Construction Group Co., Ltd.
27	China Railway (Guangzhou) Investment & Development	China Railway (Guangzhou) Investment & Development Co., Ltd. (China Railway Group Limited General Contracting Subsidiary)
28	China Railway Eryuan Engineering Group	China Railway Eryuan Engineering Group Co., Ltd.
29	China Railway Liuyuan Group	China Railway Liuyuan Group Co., Ltd.

	Short Name	Full Name
30	China Railway Engineering Design and Consulting Group	China Railway Engineering Design and Consulting Group Co., Ltd.
31	China Railway Major Bridge Reconnaissance & Design Institute	China Railway Major Bridge Reconnaissance & Design Institute Co., Ltd.
32	China Railway Academy	China Railway Academy Co., Ltd.
33	China Railway Huatie Engineering Design Group	China Railway Huatie Engineering Design Group Co., Ltd.
34	China Railway Changjiang Transport Design Group	China Railway Changjiang Transport Design Group Co., Ltd.
35	China Railway Water Conservancy & Hydropower Planning and Design Group	China Railway Water Conservancy & Hydropower Planning and Design Group Co., Ltd.
36	China Railway International Group	China Railway International Group Co., Ltd.
37	China Overseas Engineering Group	China Overseas Engineering Group Co., Ltd.
38	CREC International Engineering Branch	CREC International Engineering Branch
39	China Railway Hi-Tech Industry	China Railway Hi-Tech Industry Corporation Limited
40	China Railway Real Estate Development Group	China Railway Real Estate Development Group Co., Ltd.
41	China Railway Resources Group	China Railway Resources Group Co., Ltd.
42	China Railway Trust	China Railway Trust Co., Ltd.
43	China Railway Finance	China Railway Finance Co., Ltd.
44	China Railway Capital	China Railway Capital Co., Ltd.
45	China Railway Materials Trade Group	China Railway Materials Trade Group Co., Ltd.
46	CREC Cloud Net Information Technology	CREC Cloud Net Information Technology Co., Ltd.

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