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2019社会责任报告

SOCIAL RESPONSIBILITY REPORT 2019

中国能建 2019 社会责任报告

Energy China Group Social Responsibility Report 2019



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董事长致辞

Message from the Chairman



汪建平

中国能源建设集团有限公司董事长、党委书记
Wang Jianping
Chairman and Party Committee Secretary of China
Energy Engineering Group Co., Ltd.

2019 年，是中国能建践行“创新、协调、绿色、开放、共享”新发展理念，聚力高质量发展，着力“稳增长、快转型、促改革、防风险、强党建”的砥砺前行、开拓进取之年。我们坚持以习近平新时代中国特色社会主义思想为指导，全面贯彻落实党中央、国务院的决策部署和国务院国资委的工作要求，紧紧围绕到2020年基本建成“科技型、管理型，国际化、多元化”、具有国际竞争力工程公司的阶段发展目标，坚持稳中求进的工作总基调，努力实现更高质量、更有效率、更可持续的发展。

中国能建积极应对严峻的市场形势、急迫的转型压力和繁重的保增长任务考验，2019 年总体保持平稳的发展态势。全年新签合同额 5,217.33 亿元，同比增长 12.43%；实现营业收入 2,494.68 亿元、利润总额 124.4 亿元，有效实现资产保值增值。公司连续六年进入《财富》世界 500 强，在 ENR 全球工程设计公司 150 强、国际工程设计公司 225 强、全球承包商 250 强和国际承包商 250 强中排名位居前列。

随着联合国可持续发展目标（SDGs）的提出，进一步明确 2030 年全球愿景和优先事项，为推动全球可持续发展创造了前所未有的机遇。中国能建在加快推进企业高质量发展的同时，积极履行企业社会责任，我们坚持精准扶贫、精准脱贫的基本方略，聚全集团之力做好扶贫工作。截至 2019 年底，镇巴县累计实现 129 个贫困村退出，19,143 户 55,445 人脱贫，

2019 was a crucial year for Energy China Group to practice the new development concept of “innovation, coordination, green, openness and sharing”, and concentrate on high-quality development. It was also a pioneering year where we strove ahead with a focus on “steady growth, rapid transformation, reform promotion, risk prevention, and Party building enhancement”. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we fully implemented the decisions of the CPC Central Committee and the State Council as well as the working requirements of the State-owned Assets Supervision and Administration Commission of the State Council (“SASAC”). Concentrating on building a diversified and international engineering management and technology enterprise with global competitiveness by 2020, we adhered to the overall layout of seeking improvement in stability, striving to achieve more efficient and sustainable development with higher quality.

We actively cope with the grim market trend, mounting transformation pressure and the task of keeping business growth, thus maintaining stable development against all odds in 2019. The total amount of new contracts signed was RMB 521.733 billion, up by 12.43% year on year; the operating income was RMB 249.468 billion, and the total profit was RMB 12.44 billion, effectively realizing the maintenance and appreciation of our assets. For six consecutive years, we have been listed in the Fortune Global 500 companies as well as ENR Top 150 Global Design Firms, ENR Top 225 International Design Firm, ENR Top 250 Global Contractors and ENR Top 250 International Contractors.

With the proposal of the United Nations Sustainable Development Goals (SDGs), the global vision and priorities by 2030 are further

clarified, creating unprecedented opportunities for global sustainable development. While accelerating high-quality development, we actively fulfill our corporate social responsibility (CSR). We adhere to the basic strategy of targeted poverty alleviation and elimination, and channel the forces of the whole group to support our work. By the end of 2019, a total of 55,445 people from 19,143 households in 129 poverty-stricken villages in Zhenba County had been lifted out of poverty, and the head-count ratio had dropped to 0.82%; in Xilin County, 30,721 people from 7,125 households in 38 poverty-stricken villages had been lifted out of poverty, and the head-count ratio had dropped to 0.41%. We also committed ourselves to technological innovation for building high-quality projects. In 2019, we won one State Science and Technology Award, 157 provincial and industrial science and technology awards, 1,424 patents, 101 software copyrights, 20 National Quality Project Awards, 4 FIDIC Project Awards, and 41 China Quality Electric Power Project Awards. Besides, we also ramped up environmental, safety and quality management. As a result, there was no environmental incident, energy conservation and emission reduction irregularity, or work safety accident at the level of “ordinary” or higher.

国家强则企业兴，企业兴则国家强。2020 年是全面建成小康社会和“十三五”规划的收官之年，站在“两个一百年”奋斗目标的历史交汇点上，中国能建将继续坚持以习近平新时代中国特色社会主义思想为指导，坚持新发展理念，遵循“自主创新、奉献社会，科学发展、共建和谐”的企业社会责任感，全面加强党的领导，加快推动高质量发展，全面实现各项战略目标，最大限度地创造经济、社会和环境综合价值，为实现决胜全面建成小康社会、决战脱贫攻坚目标任务，助力实现联合国 2030 可持续发展目标（SDGs）作出更大贡献。

If a country is strong, an enterprise will prosper and vice versa. China is now in the homestretch to completing the building of a moderately well-off society in an all-round way and achieving the targets set in the 13th Five-Year Plan (2016 - 2020). Standing on the historical intersection of the two centenary goals, we will continuously adhere to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the new development concept, and follow the corporate social responsibility outlook of “independent innovation, social contribution, scientific development and mutual harmony”. Furthermore, we will enhance the Party leadership and accelerate high-quality development to realize all strategic goals, and maximize the comprehensive economic, social and environmental values. All our efforts will help achieve the goal of building a moderately well-off society in an all-round way and ending the core battle against poverty, thus promoting the realization of the SDGs.

关于中国能建

About Us

公司简介

Company Profile

中国能建是由国务院国资委直接管理的特大型能源建设集团。2011年9月29日，经国务院批准正式成立。2014年12月19日，中国能建与其全资子公司电力规划总院有限公司发起设立中国能源建设股份有限公司。2015年12月10日，中国能源建设股份有限公司首次公开发行H股在香港联合交易所主板挂牌上市（股份代码：03996.HK）。自中国能建成立以来，累计获得国家级、省部级和行业级科学技术奖1,160余项，中国建筑工程鲁班奖14项、国家优质工程金质奖42项；拥有有效专利9,243项，制定国家和行业标准620余项。

中国能建主营业务涵盖能源电力、水利水务、铁路公路、港口航道、市政工程、城市轨道交通、生态环保和房屋建筑等领域，具有集规划咨询、评估评审、勘察设计、工程建设及管理、运行维护和投资运营、技术服务、装备制造、建筑材料为一体的完整产业链。

中国能建在80多个国家和地区设立驻外机构200多个，业务遍布全球140多个国家和地区，形成了以亚洲、非洲为主，辐射美洲、中东欧、大洋洲的市场格局。

中国能建矢志打造“科技型、管理型，国际化、多元化”、具有全球竞争力的世界一流工程公司，是我国乃至全球能源电力、基础设施和房地产等行业提供整体解决方案、全产业链服务的综合性特大型集团公司。

Founded on September 29, 2011, China Energy Engineering Group Co., Ltd. (Energy China Group) is directed by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC). On December 19, 2014, China Energy Engineering Corporation Limited (Energy China) was established by Energy China Group, and Electric Power Planning & Engineering Institute Co., Ltd. (EPPE Company). On December 10, 2015, China Energy Engineering Corporation Limited was listed on the main board of Hong Kong Stock Exchange (Stock code: 03996.HK). Since its establishment, Energy China Group has received over 1,160 science and technology awards at the national, provincial and industrial levels, 14 China Construction Engineering Luban Awards, 42 National Quality Project Gold Awards. It also possesses 9,243 valid patents, and has developed more than 620 national and industrial standards.

Energy China Group mainly specializes in energy and power, water conservancy and related business, railway and road, port and waterway, municipal works, metro, environmental protection, and housing, and runs a complete industry chain from planning, consultancy, assessment, review, survey and design, engineering construction to management, operations, maintenance, investment, technical services, equipment manufacturing, and building materials.

Energy China Group has more than 200 overseas offices in over 80 countries and regions, and our business presence covers over 140 countries and regions around the world, forming a market pattern dominated by Asia and Africa, reaching the Americas, central and eastern Europe and Oceania.

Energy China Group is committed to building a diversified and international engineering management and technology enterprise with global competitiveness. Now it is a comprehensive super-sized conglomerate that provides overall solutions and services encompassing the whole industry chain for energy, power, infrastructure and real estate industries in China and even the world.

数说中国能建

Figures 2019



第**364**位
《财富》世界500强排名
364th among the Fortune Global 500

第**12**位
ENR全球承包商250强排名
12th among the ENR Top 250 Global Contractors

第**23**位
ENR国际承包商250强排名
23rd among the ENR Top 250 International Contractors

第**5**位
ENR全球工程设计公司150强排名
5th among the ENR Top 150 Global Design Firms

第**18**位
ENR国际工程设计公司225强排名
18th among the ENR Top 225 International Design Firms



资产总额**4,252.82**亿元
Total assets: RMB 425.282 billion

净资产收益率**8.6**%
Return on equity: 8.6%

年度科技支出总额**714,052.25**万元
Total S&T expenditures in 2019: RMB 7.1405225 billion

技术投入比率**2.87**%
Technical input ratio: 2.87%

国内新商业模式业务营业额同比增长**49.06**%
Year-on-year growth of business turnover of new domestic business model: 49.06%

完成投资额同比增长**29.33**%
Year-on-year growth of investment completed: 29.33%

财务公司自营贷款余额同比增长**49.68**%
The balance of proprietary loans by China Energy Engineering Group Finance Co., Ltd.: 49.68%



在“一带一路”沿线国家完成新签合同额
1,229.03亿元，同比增长**15.22**%
Newly signed contract amount in "Belt and Road" countries: RMB 122.903 billion, with a year-on-year increase of 15.22%

国际电力项目新签合同额**1,101.36**亿元
Newly signed contract amount of international power project: RMB 110.136 billion

国际非电工程签约额同比增长**84.78**%
Year-on-year growth of contract amount of international non-electrical engineering projects: 84.78%

全年境外投资完成**64.06**亿元
Annual overseas investment: RMB 6.406 billion



纳税总额**110.99**亿元
Total tax payment: RMB 11.099 billion

捐赠总额**2,358.49**万元
Total donations: RMB 23.5849 million

环保培训**75,000**人
Participants in environmental training: 75,000

从业人数**121,788**人
The number of employees: 121,788.

新增就业人数**4,381**人
New jobs offered: 4,381 person

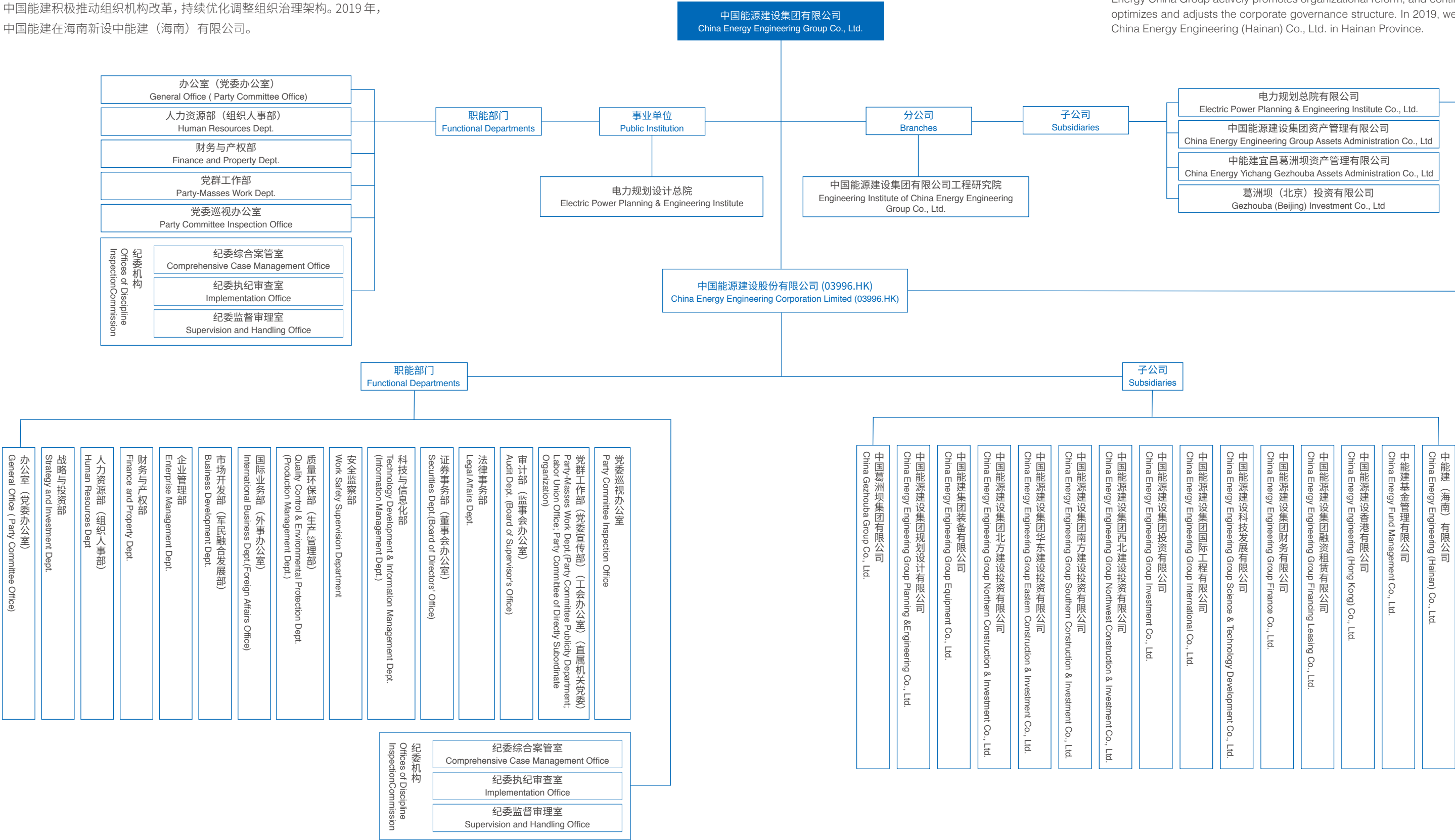
环保总投资**7.76**亿元
Total environmental investments: RMB 776 million

组织架构

Organizational Structure

中国能建积极推动组织机构改革，持续优化调整组织治理架构。2019 年，中国能建在海南新设中能建（海南）有限公司。

Energy China Group actively promotes organizational reform, and continuously optimizes and adjusts the corporate governance structure. In 2019, we set up China Energy Engineering (Hainan) Co., Ltd. in Hainan Province.



战略愿景

Strategic Vision

中国能建以“世界能源、中国能建”为组织使命，秉承“行业领先、世界一流”的战略愿景、“精益创造价值、精品引领未来”的企业宗旨，矢志打造“科技型、管理型，国际化、多元化”、具有全球竞争力的世界一流工程公司。

To fulfill the mission of “Bringing Energy to the World, Energy China Group holds the strategic vision of becoming a “World-class Industrial Leader”, and the business principle of “Establishing a Legacy of Refinement and Quality Innovation, Energy China Group is committed to building a world-class diversified and international engineering management and technology enterprise with global competitiveness.

一个中心 One center

以经济效益为中心
Centering on
economic benefits

两个转变 Two transformations

由劳务密集型向知识、技术、管理密集型转变，由国内行业龙头向国际行业龙头转变

Transformation from labor-intensive mode to knowledge, technology and management-intensive mode, and from a domestic industry leader to a global industry leader

三个优先 Three priorities

优先发展国际业务，优先发展高端业务，优先发展投资业务

Giving priorities to the development of global business, high-end business and investment business

四个强化 Four strengthenings

强化人才队伍建设，强化自主创新能力，强化资源配置能力，强化风险管控能力

Strengthening the talent team building, the independent innovation ability, the resource allocation ability and the risk control ability

五个并重 Five equal emphases

工程服务和产业投资并重，电力业务和非电业务并重，国内市场和国际市场并重，内部资源整合和外部资源联合并重，企业发展和员工发展并重

Putting equal emphasis on the engineering service and industrial investment, on the electric power business and the non-electrical business, on the domestic market and the global market, on the internal resource integration and external resource combination, and on corporate and employee development

责任管理

CSR Management

完善责任管理机制

Improving the CSR Management Mechanism

中国能建坚持以“聚天下之能，建世界之基”“奉献精品，造福人类”“同在一方热土，共建美好家园”为出发点和落脚点，遵循“自主创新、奉献社会，科学发展、共建和谐”的社会责任观，完善企业社会责任管理体系和制度，将社会责任工作融入企业各项工作中，有效管理企业运营对社会和环境的影响，推动企业发展和履行责任良性循环，努力成为履行社会责任的表率。

Adhering to the principle of “pooling energy to build the foundation of the world”, “offering high-quality products for the benefit of mankind”, and “building a beautiful home together in the same land”, Energy China Group follows the social responsibility concept of “independent innovation, social contribution, scientific development and mutual harmony” to improve the CSR management system, and integrates CSR into various work of the Group. We also effectively manage the impact of enterprise operations on society and the environment, promote the virtuous circle of enterprise development and CSR fulfillment, striving to be a CSR model.

社会责任工作委员会 CSR Committee

- 以董事长为主任、其他领导和高管为副主任，各部门主要负责人为成员的社会责任工作委员会，负责领导、推进社会责任工作
With the chairman of the board as the director, other leaders and senior executives as the deputy directors, and major heads of each department as its members, the CSR committee aims to lead and promote CSR work.

社会责任归口管理部门（集团办公室） CSR Centralized Management Department (Group Office)

- 负责协商社会责任相关工作
It is responsible for the negotiation of CSR work.

所属企业社会责任领导机构 CSR Leading Organization of Affiliated Enterprises

- 细化社会责任工作职责
Refine responsibilities of CSR work;
- 明确各单位社会责任工作归口管理部门
Define centralized management department of CSR of each organization;
- 配备社会责任管理人员
Assign personnel for CSR management.

支持可持续发展目标 Supporting the SDGs

联合国 2030 年可持续发展议程开启了全球发展合作的新篇章，可持续发展目标为全球可持续发展提供了方向。中国能建积极响应联合国的倡议和要求，开展可持续发展目标的对标研究并积极行动，为全球可持续发展贡献力量。

The UN 2030 Agenda for Sustainable Development initiates new cooperation on global development, and the Sustainable Development Goals (SDGs) provide a direction for global sustainable development. We actively respond to the initiatives and demands of the United Nations, conduct benchmarking research on the SDGs and actively contribute to global sustainable development.

中国能建行动 Energy China Group's Action



加强利益相关方沟通

Strengthening Stakeholder Communication

中国能建加强与利益相关方的交流沟通，持续完善利益相关方常态化沟通机制，及时了解利益相关方的期望与诉求并及时响应，获得利益相关方的信赖和支持。

Energy China Group strengthens the communication with stakeholders by continuously improving regular communication mechanisms, so as to understand the expectations and demands of stakeholders and give response in a timely manner, thus obtaining the trust and support of stakeholders.

利益相关方沟通表
Stakeholder communication

利益相关方 Stakeholders	期望与诉求 Appeals & Expectations	回应方式 Responses	责任实践 CSR Practices
国务院国资委 The SASAC	<ul style="list-style-type: none">收益回报 Return on investment社会责任 Social responsibilities	<ul style="list-style-type: none">全面工作汇报 Report all works严格报送报表 Strictly submit statements贯彻相关精神 Implement relevant guiding principles接受监督检查 Accept supervision and inspection	<ul style="list-style-type: none">超额完成业绩考核 Exceed the performance target持续加强风险管理 Continuously enhance risk management and control深化企业改革 Deepen corporate reform配合国资委调研 Assist the SASAC with investigation and research承担企业社会责任 Undertaking corporate social responsibility
股东与投资者 Shareholders & Investors	<ul style="list-style-type: none">收益回报 Return on investment公开透明 Transparency权益保护 Protect rights and interests	<ul style="list-style-type: none">公开透明质量 Open and transparent quality投资者关系维护 Maintain sound investor relationship严格信息披露 Strictly disclose information	<ul style="list-style-type: none">提升经营业绩 Promote business performance完善公司治理 Improve corporate governance保护股东权益 Protect the rights and interests of shareholders
政府 The Government	<ul style="list-style-type: none">依法纳税 Pay tax in accordance with the law遵纪守法 Observe disciplines and laws响应政策 Respond to policy	<ul style="list-style-type: none">主动纳税 Pay taxes on our own initiative合规经营 Run business in compliance参与扶贫、拉动就业 Engage in poverty relief and promote employment	<ul style="list-style-type: none">依法合规经营、足额纳税 Run business in compliance, and pay all due taxes参与精准扶贫 Take part in targeted poverty alleviation稳定增长、带动就业 Realize stable growth, and stimulate employment
业主和客户 Proprietors and Customers	<ul style="list-style-type: none">严格履约 Strictly observe agreements and contracts质量优良 Good quality响应投诉 Respond to complaints	<ul style="list-style-type: none">调查客户需求 Investigate into customer demands严格生产管理 Conduct strict production management加强质量管理 Strengthen quality management积极沟通 Carry out active communication	<ul style="list-style-type: none">确保履约率和交工合格率 Contract performance rate and acceptance rate技术工艺和产品创新 Innovate on technologies, techniques and products正面解决投诉 Solve complaints in a positive manner

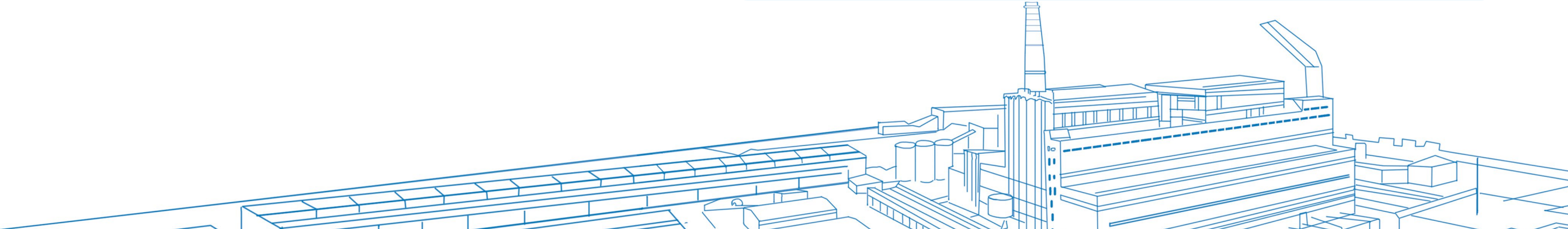
利益相关方 Stakeholders	期望与诉求 Appeals & Expectations	回应方式 Responses	责任实践 CSR Practices
供应商与分包商 Suppliers and Contractors	<ul style="list-style-type: none">公开采购 Open procurement公开公正 Transparency and fairness严格履约 Strict performance of agreements and contracts	<ul style="list-style-type: none">招投标、商业谈判 Biddings, business negotiations合同执行 Contract performance公开采购平台 Open procurement platform会议、互访与交流 Meetings, mutual visits, exchanges	<ul style="list-style-type: none">坚持诚信、严格履约 Commitment to integrity, strict contracts performance公开采购、公正评标 Open procurement, fair bids evaluation遵守互利、共赢原则 Observe the principle of mutual benefits and win-win cooperation建立良好合作关系 Establish sound partnership
员工 Employees	<ul style="list-style-type: none">薪酬与福利 Compensation and benefits健康与安全 Health & safety职业发展 Occupational development人文关怀 Care for employees	<ul style="list-style-type: none">健全的制度基础 Sound institutional basis职工监事、代表、工会 Employee supervisor, representatives, and Labor Union征求合理化建议 Ask for reasonable advices完善培训体系 Improve training system关注员工困难 Pay attention to employees in difficulties	<ul style="list-style-type: none">稳定的薪酬激励 Develop stable system of salary incentives关注员工发展 Pay attention to staff development开展各类培训 Organize various trainings关注并预防职业病 Pay attention to and prevent occupational diseases开展困难职工帮扶 Make efforts in helping employees in difficulties
社区与公众 Communities and the Public	<ul style="list-style-type: none">公益慈善 Charity环境友好 Environmental friendliness社区发展 Community development社区就业 Community employment	<ul style="list-style-type: none">社区交流、慰问 Community exchanges & greetings社会公益活动 Social welfare activities捐资、捐助 Donations志愿者活动 Volunteer activities环境保护 Environmental protection	<ul style="list-style-type: none">参与社区公益和福利事业 Engage in community welfare service投身抢险救灾 Devote to disaster rescue and relief推进本地采购和雇佣 Promote local procurement and employment重视项目对社会环境的影响 Attach importance to social and environmental impacts of projects加大环保产业投入 Enlarge inputs into environmental industries
行业 The Industry	<ul style="list-style-type: none">公平竞争 Fair competition推动行业进步 Promote industrial progress	<ul style="list-style-type: none">编制标准和规范 Formulate standards and specifications加大研发投入 Intensify R&D efforts参加行业协会 Join industrial associations战略合作 Carry out strategic cooperation	<ul style="list-style-type: none">开展规划研究、技术研发，引领行业发展 Conduct planning research and lead the development of the industry through technology R&D发挥全产业链优势，为行业提供优质服务 Give full play to the edges across the entire industrial chain and offer good quality services配合、支持协会、推进行业公平竞争与良性发展 Support and coordinate with industrial associations in promoting fair competition and sound industry development

获得社会广泛认可

Wining Wide Social Recognition

荣誉 Award	评选机构 Issuer
中国能建荣获中央企业负责人（2018 年）年度经营业绩考核 A 级 Class A, 2018 Annual Business Performance Assessment of the Leadership of Central State-owned Enterprises	国务院国有资产监督管理委员会 The SASAC
中国能建股份公司、广东院等 6 家企业荣获庆祝中华人民共和国成立 70 周年功勋企业 Six enterprises including Energy China and Guangdong Electric Power Design Institute won the title of "Meritorious Enterprise of the Celebration of the 70th Anniversary of the Founding of the P.R.C."	中国施工企业管理协会 China Association of Construction Enterprise Management
长江三峡枢纽工程荣获国家科技进步奖特等奖 The Three Gorges Water Conservancy Project won the special prize of National Scientific and Technological Progress Award	国家科学技术奖励工作办公室 National Office for Science & Technology Awards
宜昌市庙嘴长江大桥和杭州九峰垃圾焚烧发电工程荣获 2018 ~ 2019 年度第二批中国建设工程鲁班奖 Zhixi Yangtze River Bridge in Yichang and Jiufeng Waste Incineration Power Generation Project won the 2018-2019 the Second Batch of China Construction Engineering Luban Prize	中国建筑业协会 China Construction Industry Association
长江葛洲坝水利枢纽工程荣获庆祝中华人民共和国成立 70 周年经典工程 Gezhouba Water Conservancy Project won the title of "Classic Project of the Celebration of the 70th Anniversary of the Founding of the P.R.C."	中国施工企业管理协会 China Association of Construction Enterprise Management
榆横~潍坊 1,000 千伏特高压交流输变电工程、国投湄洲湾 2×1,000 兆瓦绿色建造示范工程等 8 个项目荣获 2018 ~ 2019 年度第二批国家优质工程金奖 Eight projects including Yuheng-Weifang 1,000 kV HV AC Transmission Project and SDIC Meizhou Bay 2 × 1,000 MW Green Construction Demonstration Project won 2018-2019 the Second Batch of National Quality Engineering Award	中国施工企业管理协会 China Association of Construction Enterprise Management
甘肃电投武威 2×350 兆瓦热电联产工程、上海崇明燃机电厂工程等 12 项工程荣获 2018 ~ 2019 年度第二批国家优质工程奖 Twelve projects including Gansu Electric Power Investment Wuwei 2 × 350 MW Cogeneration Project and Shanghai Chongming Gas Turbine Plant Project won 2018-2019 the Second Batch of National Quality Engineering Award	中国施工企业管理协会 China Association of Construction Enterprise Management

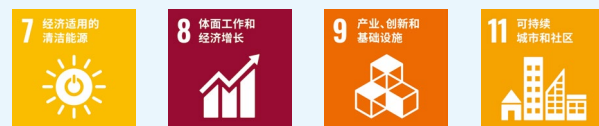
荣誉 Award	评选机构 Issuer
国电蚌埠电厂 2×660 兆瓦二期扩建工程、江西洪屏抽水蓄能电站机电安装工程等等 13 项工程荣获 2019 ~ 2020 年度第一批中国安装工程优质奖（中国安装之星） Thirteen projects including State Grid Bengbu 2 × 660 MW Power Plant Phase II Expansion Project and Electromechanical Installation Project of Jiangxi Hongping Pumped Storage Power Station won 2019-2020 the First Batch of China Installation Engineering Quality Award	中国安装协会 China Installation Association
三峡水利枢纽升船机工程、雅砻江锦屏二级水电站、苏州南部电网 500 千伏统一潮流控制器（UPFC）工程、澜沧江小湾水电站等 4 个项目荣获 2019 年菲迪克工程项目优秀奖 Four projects: Ship Lift Project of the Three Gorges, Jinping II Hydropower Station on Yalong River, 500 kV Unified Power Flow Controller (UPFC) Project in Southern Suzhou Power Grid, and Xiaowan Hydropower Station on Lancang River won 2019 FIDIC Engineering Project Excellence Award	国际咨询工程师联合会 International Federation of Consulting Engineers
葛洲坝机船公司质量环保管理部工匠 QC 小组和西南院越南海阳项目 PHC 桩基 QC 小组荣获 2019 年第二届中央企业 QC 小组发表赛一等奖 Craftsman QC Group of Quality and Environmental Protection Management Department of Gezhouba Machinery and Ship Company and PHC Pile Foundation QC Group of Vietnam Haiyang Project of China Southwest Architectural Design and Research Institute won the First Prize of the Second State-owned Enterprise QC Group Presentation Competition in 2019	中国质量协会 China Association for Quality
浙江火电沁阳项目汽轮发电机组安装 QC 小组荣获 2019 年第二届中央企业 QC 小组发表赛二等奖 QC Group for Turbine Generator Unit Installation of Qinyang Project of Zhejiang Power Construction Co., Ltd. won the Second State-owned Enterprise QC Group Presentation Competition in 2019	中国质量协会 China Association for Quality
中国能建规划设计集团 204 个项目荣获 2019 年度电力行业优秀勘测、优秀设计、优秀标准设计和优秀计算机软件“四优”奖，其中一等奖 103 项、二等奖 49 项、三等奖 52 项 204 projects of China Power Engineering Consulting Group won "Four Excellence" Award for excellent survey, design, standard and computer software in the power industry in 2019 . Among them, 103 first prizes, 49 second prizes and 52 third prizes were awarded.	中国电力规划设计协会 China Electric Power Planning & Engineering Association
金蜜蜂 2019 优秀企业社会责任报告·员工责任信息披露奖 GoldenBee 2019 Excellent CSR Report ·Employee Care Disclosure Award	《可持续发展经济导刊》杂志社 China Sustainability Tribune



专题 Feature

电力发展 70 年，同频共振铸辉煌

70 Years of Electric Power Development for Common Prosperity



建设时期，艰难拓荒 A pioneer in the difficult construction period

1950

新中国第一家电力勘测设计机构东北电业管理局设计处（东北电力设计院前身）成立

The Design Office of the Northeast Electric Power Administration Bureau (the predecessor of the Northeast Electric Power Design Institute), the first electric power survey and design institution after the founding of the PRC, was established.



1954

我们设计的松东李（丰满—东陵—李石寨）220 千伏送电工程投入运行
The 220 kV Song-Dong-Li (Fengman-Dongling-Lishizhai) power transmission project, designed by Energy China Group, was put into operation.



1970

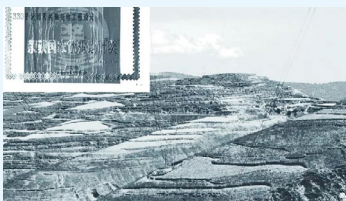
葛洲坝集团的前身——三三〇工程指挥部组建；万里长江第一坝——葛洲坝水利枢纽工程破土开工

No. 330 engineering headquarters, the predecessor of China Gezhouba Group, was established; the first dam on the Yangtze River, Gezhouba Water Conservancy Project, broke ground and started construction.



1972

我们设计的新中国第一条 330 千伏输电工程刘家峡—天水—关中线路投运
Liujiaxia-Tianshui-Guanzhong line, the first 330 kV transmission and transformation project in China, designed by Energy China Group, was put into operation.



1975

中电工程的前身——水利电力部规划设计管理局成立
The Planning and Design Administration Bureau of the Ministry of Water Resources and Electric Power, the predecessor of the China National Electric Engineering Co., Ltd, was established.

1981

我们设计的国内第一条 500 千伏交流输电工程河南平顶山—湖北武昌线路建成投运

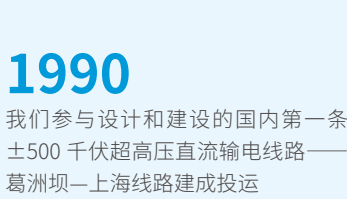
The Pingdingshan - Wuchang line, the first 500 kV AC transmission project, designed by Energy China Group, was completed and put into operation.



改革岁月，勇敢探索 Brave exploration during years of reform

1988

我们承建的葛洲坝水利枢纽工程最后 1 台机组发电
The last unit of Gezhouba Water Conservancy Project contracted by Energy China Group, began to generate electricity.



1990

我们参与设计和建设的国内第一条 ±500 千伏超高压直流输电线路——葛洲坝—上海线路建成投运
The Gezhouba - Shanghai line, the first ±500 kV EHV DC transmission line in China, which Energy China Group participated in the design and construction, was completed and put into operation.



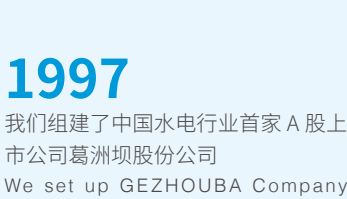
1991

我们参与设计和施工的国内第一座核电站——秦山核电站投产
Qinshan Nuclear Power Plant, the first nuclear power plant in China, which Energy China Group participated in the design and construction, was put into operation.



1994

我们作为施工主力军的长江三峡水利枢纽工程正式开工
The Three Gorges Water Conservancy Project spanning the Yangtze River, mainly constructed by Energy China Group, officially kicked off.



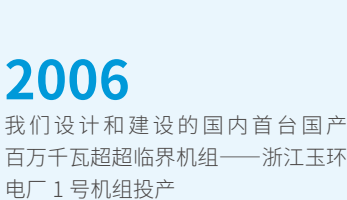
1997

我们组建了中国水电行业首家 A 股上市公司葛洲坝股份公司
We set up GEZHOUBA Company Limited, the first listed company in China's hydropower industry.



2003

葛洲坝集团及中电工程成立
China Gezhouba Group and China National Electric Engineering Co., Ltd. were established.



2006

我们设计和建设的国内首台国产百万千瓦超超临界机组——浙江玉环电厂 1 号机组投产
Zhejiang Yuhuan Power Plant, China's first 1 GW ultra-supercritical coal-fired unit, designed.



2007

我们参与建设的江苏田湾核电站一期工程 2×106 万千瓦机组投产；葛洲坝集团通过葛洲坝股份公司实现主业资产在上海证券交易所的整体上市
Tianwan Nuclear Power Plant Phase I Project with 2x1,060 MW units in Jiangsu, which we participated in the construction, was put into operation; China Gezhouba Group achieved the overall listing of main businesses in Shanghai Stock Exchange through China Gezhouba Group Company Limited.



2009

我们设计的中国首个 1,000 千伏特高压交流工程——晋东南—南阳—荆门交流特高压试验示范工程投运
The first 1,000 kV UHV AC project in China - Southeastern Shanxi-Nanyang-Jingmen AC Ultra-high Voltage Experimental Demonstration Project, designed by Energy China Group, was put into operation.



2010

我们设计与建设的世界第一条 ±800 千伏特高压直流输电工程——云南楚雄—广东穗东线路投运
The world's first ±800 kV UHV DC transmission project - Chuxiong Suidong line, designed and built by Energy China Group, was put into operation and built by Energy China Group.



2011

中国能源建设集团有限公司成立
In 2011, China Energy Engineering Group Co., Ltd. was established.



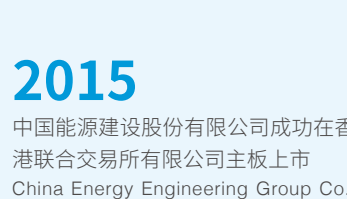
2012

我们作为施工主力军的长江三峡水电站全部机组投产
All units of the Three Gorges Dam Hydroelectric Power Plant, mainly built by Energy China Group, were put into operation.



2013

我们参与建设的雅砻江锦屏一级水电工程建成
The Jinping-I Hydropower Project on the Yalong River, that Energy China Group participated in the construction, was completed.



2015

中国能源建设股份有限公司成功在香港联合交易所有限公司主板上市
China Energy Engineering Group Co., Ltd. was successfully listed on the main board of the Stock Exchange of Hong Kong Ltd.



2015

我们设计建设的世界上首台成功运用二次再热技术的百万千瓦超超临界火电机组——江苏泰州电厂二期 3 号机组正式投产

The world's first 1 GW ultra supercritical coal-fired unit, designed and built by Energy China Group, successfully using the double reheat technology - Unit 3 of Taizhou Power Plant Phase II was officially put into operation.



2015

我们设计并参与建设的世界上首个集风力发电、光伏发电、储能系统、智能输电四位一体，综合开发利用新能源的创新工程——张北国家风光储输示范项目投运
Zhangbei National Wind and Solar Energy Storage and Transmission Demonstration Project, the world's first innovative project integrating wind power generation, photovoltaic power generation, energy storage system and intelligent power transmission, which Energy China Group participated in the design and construction, was put into operation.



2017

我们投资建设的中企在越南单笔投资金额最大项目——越南海阳电厂开工
Haiyang Power Plant, the largest single investment project of Chinese enterprises in Vietnam, invested by Energy China Group, kicked off.



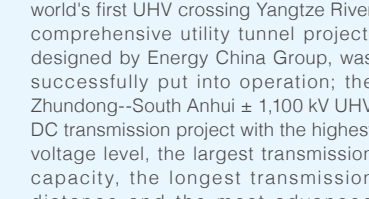
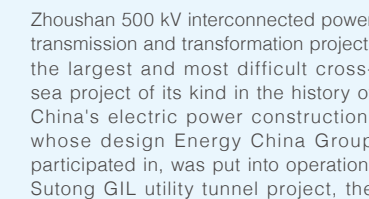
迈入新时代，再创辉煌 Creating good future in the new era

2018

我们承担规划的《雄安新区能源规划设想》发布
The *Energy Planning for Xiongan New Area*, whose planning we undertook, was released.

2019

我们参与设计的中国电力建设史上规模最大、技术难度最大的跨海联网输电工程——舟山 500 千伏联网输电工程投运；我们设计的全球首条特高压穿越长江综合管廊工程——苏通 GIL 综合管廊工程成功投运；我们参与设计的当今世界上电压等级最高、输送容量最大、输电距离最远、技术水平最先进的高压输电工程——准东—皖南 ±1,100 千伏特高压直流输电工程投运
Zhoushan 500 kV interconnected power transmission and transformation project, the largest and most difficult cross-sea project of its kind in the history of China's electric power construction, whose design Energy China Group participated in, was put into operation; Sutong GIL utility tunnel project, the world's first UHV crossing Yangtze River comprehensive utility tunnel project, designed by Energy China Group, was successfully put into operation; the Zhundong--South Anhui ±1,100 kV UHV DC transmission project with the highest voltage level, the largest transmission capacity, the longest transmission distance and the most advanced technology level in the world, for which Energy China Group participated in the design, was put into operation.



2019

我们总承包建设的中巴经济走廊重要能源项目——巴基斯坦胡布项目通过 168 小时试运行
The Hubco Project in Pakistan, an important energy project of China-Pakistan Economic Corridor, which Energy China Group was generally contracted to build, passed 168-hour trial operation.



2020

我们参与建设的乌东德电站送电广东广西特高压多端混合直流示范工程全线贯通
The UHV multi-terminal hybrid DC demonstration project from Wudongde Hydropower Plant to Guangdong and Guangxi we participated in was completed.



2019 年是新中国成立 70 周年
2019 was the 70th anniversary of the founding of the PRC.

世界能源，中国能建
Bringing Energy to the World

中国能建所属企业，伴随新中国的诞生而相继成立，从在一张白纸上绘蓝图开始，与新中国共成长，逐步成为中国乃至世界能源建设的主力军，在建立和完善国民经济体系中发挥了重要作用。

中国能建以电力规划设计和建设者的身份，不断改写和创造中国和世界电力工程建设纪录。中国能建奋战在国民经建设一线，用智慧和汗水践行着共产党人坚贞不渝、始终如一的初心和使命，形成了中国产业工人的宝贵精神：一笔一划做规划、一砖一瓦抓建设，默默无闻，甘于奉献。在为国家电力事业奋斗的历程中，中国能建孕育形成了“报国、专业、创业、奋斗”四种精神。

中国能建始终把家国情怀和报国之志、国有企业的使命担当、电力工业发展的事业追求，融入企业改革发展实践，忠诚担当、使命必达、初心不改、坚如磐石。

中国能建积极参与火电、水电、核电、风电、光电等能源工程设计、建设、投资、运营，承担清洁能源国家科技项目，拥有了一批关键核心技术。作为我国电力能源建设的主力军，中国能建以规划设计者和工程建设者身份，勇攀电力工业高峰，为我国电力能源建设事业发展贡献了智慧与力量。

Energy China Group actively participates in the design, construction, investment and operation of thermal power, hydropower, nuclear power, wind power, photoelectricity and other energy projects. We have undertaken many national science and technology projects for clean energy, and mastered a number of key & core technologies. As a main force, designer and builder in the construction of China's electric power industry, we have bravely soared to the peak of the industry, contributing our wisdom and strength to its development.



With the birth of the People's Republic of China, the affiliated companies of Energy China Group were established one after another. Starting from drawing a blueprint on a piece of white paper, and growing up with the PRC, they have gradually become the main force of energy development in China and even in the world, playing an important role in the establishment and improvement of the national economic system.

As an electric power planner and builder, Energy China Group continuously rewrites and creates the records of electric power engineering construction in China and even the world. We seek to promote the national economic development and unswervingly support the original aspiration and mission of the Communist Party of China, thereby forming a precious spirit of Chinese industrial workers to plan and construct in every fundamental detail and dedicate to the career. In the course of striving for the national electric power industry, we have formed four kinds of spirits: serving the country, being professional, pioneering and dedicating.

In the reform and development of the enterprise, Energy China Group always adheres to the patriotic ambition of serving the country, the mission of a state-owned enterprise and the pursuit of electric power industry development. We are loyal to our responsibility, accomplish our mission unswervingly and stick to our original aspiration.

探索煤电清洁高效新方向
Exploring a New Direction for Clean and Efficient Coal-Fired Power

70 年来，中国能建凭借科技创新与工程实践，在百万千瓦等级高效超超临界发电、二次再热发电、空冷技术、IGCC 发电、CFB 发电、联合循环发电、烟塔合一、近零排放与节能改造等火电技术领域的研发与设计实力，已处于国际领先水平，为我国火电技术进步与煤炭清洁高效利用作出了突出贡献。

Over the past 70 years, with scientific and technological innovation and engineering practice, Energy China Group has upgraded its R&D and design strength of thermal power technology to the world-class level, such as 1 GW high-efficiency ultra-supercritical power generation, double-reheat power generation, air cooling technology, IGCC power generation, CFB power generation, combined cycle power generation, fuel gas tower integration, near-zero emission and energy-saving transformation, making outstanding contributions to China's thermal power technology progress as well as clean and efficient utilization of coal.



百万千瓦等级高效超超临界发电
1 GW high-efficiency ultra-supercritical power generation

2002 年，中国能建承接我国首座百万千瓦级超超临界燃煤电站——浙江玉环电厂的技术研发和设计任务，该项目投产是当时国内综合节能和环保水平最高的燃煤电厂。In 2002, Energy China Group contracted the technology research and design of the first 1 GW high-efficiency ultra-supercritical coal-fired power plant in China, Yuhuan Power Plant in Zhejiang, which was then the most energy-efficient and environmentally-friendly coal-fired power plant in China.

45.4
热效率达到 (%)
Thermal efficiency 45.4%

59
与当时国内平均煤耗相比，每年可节约原煤（万吨）
Compared with the average domestic coal consumption at that time, the amount of raw coal it could save.



二次再热发电
Double-reheat power generation

我们设计和承建的泰州电厂二期示范工程建成世界首台百万千瓦二次再热机组，填补了我国二次再热技术的空白，发电效率创下当时的世界之最，污染物排放成为全球煤电领域标杆。

Designed and built by Energy China Group, the Taizhou Power Plant Phase II Demonstration Project has the world's first 1 GW double-reheat unit, filling the gap in that field of China. The power generation efficiency was the highest in the world at that time, and the pollutant emission became a benchmark in the global coal electricity field.

47.82
发电效率 (%)
Power generation efficiency 47.82%

与常规百万超超临界机组相比，该项目二氧化碳、二氧化硫、氮氧化物、粉尘排放量减少 5% 以上

我们设计和承建的江苏宿迁二期两台 66 万千瓦超超临界二次再热机组项目在泰州二期的基础上，聚焦二次再热技术的高效灵活利用，满足电网调峰、电力宽负荷运行需求。

Designed and built by Energy China Group, the 2x660 MW ultra-supercritical double-reheat unit of Jiangsu Suqian Project Phase II, based on Taizhou Power Plant Phase II, focuses on efficient and flexible utilization of double-reheat technology to meet the requirements of power grid peak regulation and wide load operation.

我们正在承担我国 700 摄氏度超超临界技术研发任务中的总体方案设计研究、示范电站建设的工程可行性研究等工作，其供电效率可达到 50% 左右，将助力火电技术提效减排继续升级。

我们探索碳捕集、利用和封存（CCUS）技术研究和成果转化，总承包建设了亚洲首个多技术开放国际碳捕集测试平台项目——广东碳捕集测试平台，标志着中国的碳捕集技术研发步入新征程。

We have researched carbon capture, utilization and storage (CCUS) technology and explored ways to transform the results, and built Guangdong carbon capture test platform--the first open international carbon capture test platform for multi-technologies in Asia, marking a new journey for China's carbon capture research and development.

We are undertaking the overall conceptual design research and the engineering feasibility study on demonstration power plant construction in the R&D of 700°C ultra-supercritical technology in China. The power supply efficiency can reach 50% or so, which will help improve the efficiency and reduce the emission of thermal power technology.



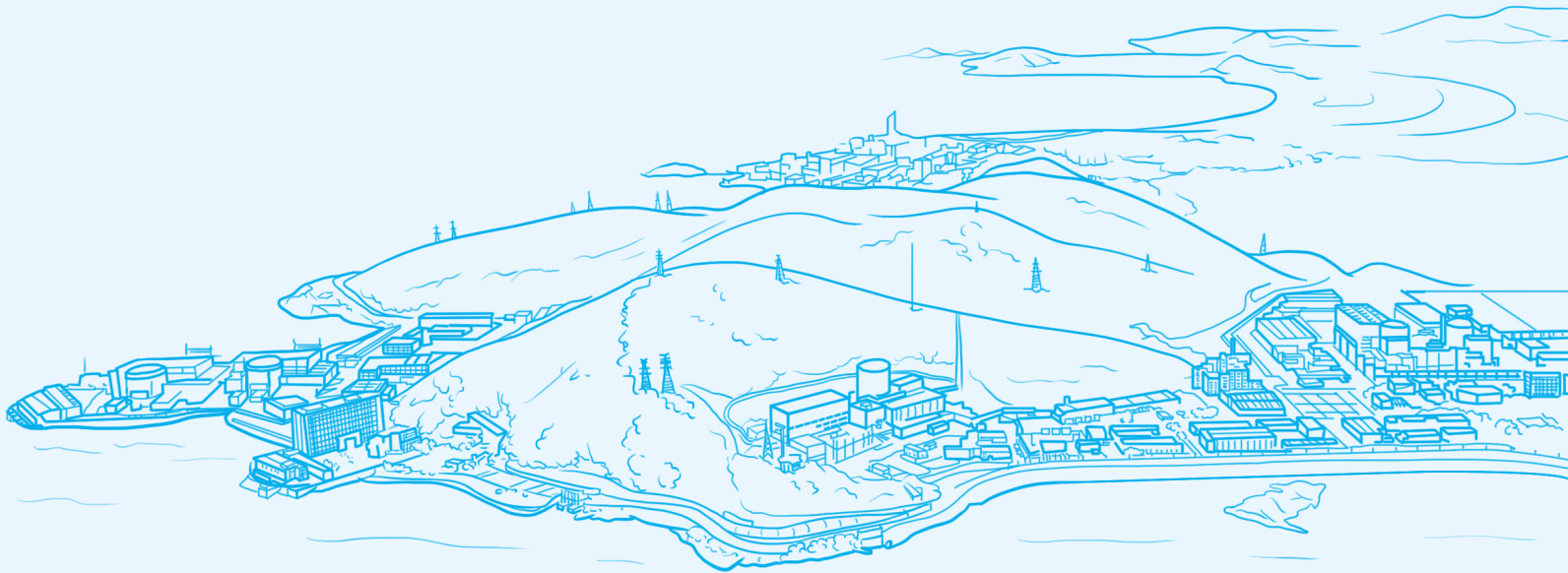
推进水电智能建造发展
Promoting the Development of Intelligent Hydropower Construction

70 年来，中国能建设计、承建的水利水电工程已超过 1000 座，不断刷新着水电建设的“世界之最”，引领中国水电建设向智能制造的高效新方向发展，并实现水电“走出去”的全面升级。

Over the past 70 years, Energy China Group has designed and constructed over 1,000 water conservancy and hydropower projects, continuously refreshing the "global No.1s", leading China's hydropower construction to the efficient direction of intelligent manufacturing, and realizing the overall upgrading of "going global" of hydropower.

从万里长江第一坝——葛洲坝水利枢纽工程到世界最大的水电工程（以装机容量计）——长江三峡水利枢纽工程，再到攻克了诸多世界级难题的巴基斯坦 SK 水电站项目，中国能建擦亮世界水电的“中国名片”。

From Gezhouba Water Conservancy Project, the first dam spanning the Yangtze River, to the Three Gorges Dam Project, the world's largest hydropower project (in terms of installed capacity), then to the SK Hydropower Project in Pakistan, which has overcome many world-class problems, Energy China Group has putmade China on the map in stand tall in the world of hydropower.





智慧大坝 Smart dam

我们参建的乌东德水电站折射出中国水电智能建造的新高度和未来。

The Wudongde Hydropower Plant that we participated in the construction reflects the new height and future of China's intelligent hydropower construction.

85

授权专利 (项)
85 authorized patents

31

工法 (项)
31 construction methods

58

科技进步奖 (项)
58 Science and Technology
Progress Awards

4

其他科技成果 (项)
4 other scientific and
technological achievements

首次在 300 级拱坝中全面应用低热水泥, 成为世界创举。

It is the first time that low-heat cement has been fully applied in a 300 m arch dam, becoming a world pioneer.

研发了智能振捣、智能温控、智能喷雾等一系列智能技术, 保持了温度稳定, 并率先应用大坝自爬升模板, 实现了又快又好浇筑。

A series of intelligent technologies such as intelligent vibrating, intelligent temperature control and intelligent spraying have been developed to maintain temperature stability, and the dam self-climbing formwork has been first applied to realize fast and accurate pouring.

在施工隐蔽区, 首次使用了全自动控制智能灌浆系统, 一键启动高质量灌浆, 实现了施工可视化。

In the hidden areas of construction, an automatic control intelligent grouting system is used for the first time to start high-quality grouting with one key, realizing the construction visualization.

我们践行“一带一路”倡议, 积极开拓国际市场, 先后在巴基斯坦、安哥拉、埃塞俄比亚、尼日利亚、刚果(布)、阿根廷、伊拉克、尼泊尔、柬埔寨、越南、缅甸等国家和地区中标承建了一大批水利水电项目。

We have implemented the Belt and Road Initiative and actively developed the international market. We have won bids to build a large number of water conservancy and hydropower projects in Pakistan, Angola, Ethiopia, Nigeria, Republic of Congo, Argentina, Iraq, Nepal, Cambodia, Vietnam, Myanmar and other countries and regions.



引领核电自主创新发展

Leading Independent Innovation and Development of Nuclear Power

中国能建参与了国内 40 余个核电站的勘测、设计、施工、装备制造, 占国内核电设计咨询市场份额超 90%, 常规岛施工安装市场 60%, 引领我国核电建设自主创新发展, 为我国核电事业发展贡献了智慧与力量。

Energy China Group has participated in the survey, design, construction and equipment manufacturing of over 40 nuclear power plants in China, accounting for more than 90% of domestic nuclear power design and consulting market, and 60% of conventional island construction and installation market. Leading independent and innovative development of China's nuclear power construction, we have contributed our wisdom and strength to the development of China's nuclear power industry.



参建核电项目创多个第一 Creating many firsts in the construction of nuclear power projects

- 我国第一座大型商用核电站——大亚湾核电站
The first large commercial nuclear power plant in China—Daya Bay Nuclear Power Plant
- 世界首个 AP1000 项目——浙江三门核电站一期工程
The world's first AP1000 project—Sanmen Nuclear Power Plant Phase I Project in Zhejiang
- 华龙一号境外首堆工程——巴基斯坦卡拉奇核电站
HPR1000 first reactor overseas—Karachi Nuclear Power Plant in Pakistan

- 我国第一座自主设计、自行建设核电站——秦山核电站
China's first self-designed and self-built nuclear power plant—Qinshan Nuclear Power Plant
- 我国最早的两台百万千瓦级压水堆核电站技术引进和消化项目——岭澳核电站一期
China's first two 1 GW PWR nuclear power units technology introduction and assimilation project—Ling Ao Nuclear Power Plant (Phase I)
- EPR 全球首堆项目——广东台山核电 1 号机组
The world's first EPR project—Taishan Nuclear Power Unit I Project in Guangdong
- 我国首座出口的 30 万千瓦级商用压水堆核电站——巴基斯坦恰希玛核电站 1 号机组项目
China's first export of 300 MW commercial PWR nuclear power plant—Chashma Nuclear Power Plant Unit I Project in Pakistan



核电关键设备和材料国产化 Localization of key nuclear power equipment and materials

自主研制的核电站堆芯测量系统导向管, 填补了国内自主知识产权空白。
The self-developed guide tube for nuclear power plant reactor core measurement system has filled the gap in domestic independent intellectual property rights.

4

“核级气动执行机构”项目获授权专利 (项)
The “Nuclear-grade Pneumatic Actuator” project has been granted 4 patents.



具备较强核电站常规岛设计的能力 Strong capability of conventional island design for nuclear power plants

2

主编国家标准 (项)
Leading the compilation of 2 national standards

5

参编国家标准 (项)
Participating in the compilation of 5 national standards

8

主参编行业标准 (项)
Leading the compilation of 8 industry standards

2

占据国内 4 家核岛施工企业 (席)
Occupying 2 among 4 nuclear island construction enterprises in China

引导海上风电智能化转变

Guiding Intelligent Transformation of Offshore Wind Power

目前，中国能建已经获得海上风电专利专有技术软件著作权 70 余项，促进海上风电管理模式向智能化转变，带动海上风电产业链初步形成，并走上良性发展的快车道。

At present, Energy China Group has obtained more than 70 proprietary technology software copyrights for offshore wind power patents, which promotes the transformation of offshore wind power management to intelligent mode, drives the initial formation of the offshore wind power industry chain and embarks on the fast track of sound development.



编制世界首部海上风电场国家标准

Compiling the world's first national standard for offshore wind farms

我们编制的世界上首部海上风电场国家标准——《海上风力发电场设计标准》于 2019 年正式实施，对我国海上风电场工程设计规范化、标准化，充分发挥海上风电能效，保障海上风电安全运行具有重要意义。

The world's first national standard for offshore wind farms, the *Standard for Design of Offshore Wind Farms*, has been formally implemented since 2019, which is of great significance to the normalization and standardization of offshore wind farm engineering design in China, giving full play to energy efficiency and ensuring the safe operation of offshore wind power.



智慧海上风电场

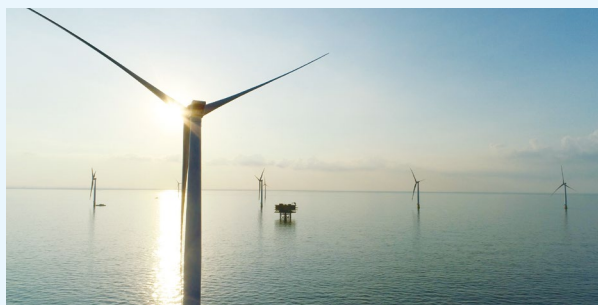
Smart offshore wind farm

我们在广东省启动建设了中国首个省级海上风电大数据平台，通过整合规划、建设、设备、运维等数据，实现与政府部门、投资方和设备供应商的数据信息共通共享。

China's first provincial offshore wind power big data platform has been launched and constructed in Guangdong Province. Through the integration of planning, construction, equipment, operation and maintenance data, it has realized the common sharing of data and information with government departments, investors and equipment suppliers.

我们总承包的湛江外罗海上风电项目是国内首个基于大数据，采用一体化监控系统和智能调度系统的“智慧型”海上风电场。

Generally contracted by Energy China Group, the Zhanjiang Wailuo Offshore Wind Power Project is the first smart offshore wind farm in China based on big data. It adopts integrated monitoring system and an intelligent dispatching system.



推动光热发电重点项目建设

Promoting Key Concentrated Solar Power Project Construction

中国能建紧跟能源产业发展方向，承建光热发电国家示范项目。在国家首批 20 个光热发电示范项目中，中国能建主导规划建设了其中 12 个项目，占比六成。

Following the development of the energy industry, Energy China Group has undertaken the construction of numerous national concentrated solar power demonstration projects. Among the first 20 projects of that kind in China, 12 were planned and constructed by Energy China Group, accounting for 60%.



光热示范项目

Concentrated solar power demonstration projects

我们总承包和承建的中广核德令哈 50 兆瓦槽式光热示范项目是我国首批 20 个光热示范项目中首个开工建设、首个并网投运的项目。

Contracted and constructed by Energy China Group, the Delingha 50 MW Parabolic Trough Concentrated Solar Demonstration Project of China General Nuclear Power Corporation (CGN) is the first project to start construction and be put into operation in the first batch of 20 concentrated solar demonstration projects in China.

我们设计的青海德令哈 50 兆瓦熔盐储能光热电站 95% 以上的设备实现了国产化。

More than 95% of the equipment of Delingha 50 MW Molten Salt Tower Concentrated Solar Power Project in Qinghai designed by us, has been localized.



光热项目“走出去”

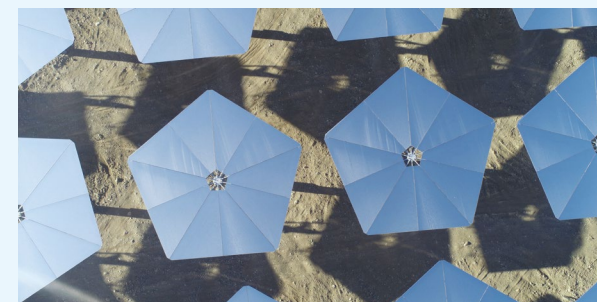
"Going Global" of concentrated solar power projects

我们签署的希腊 MINOS 50 兆瓦塔式光热发电项目 EPC 合同开创了中西方企业在第三方市场合作的范例。

The Greece MINOS 50 MW Tower Concentrated Solar Power Project EPC Contract signed by us created an example of cooperation between Chinese and western enterprises in the third-party market.

我们签订了迪拜 700 兆瓦光热发电项目合同，该项目是目前世界上投资规模最大、装机容量最大、熔岩罐储热量最大的光热项目。

We have signed a contract for Dubai 700 MW Concentrated Solar Power Project, which is currently the largest project of that kind in the world with the largest investment scale, installed capacity and heat storage in lava tanks.



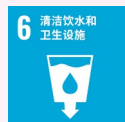
壮丽 70 年，奋进新时代。展望未来，中国能建将继续开拓进取，激流勇进、敢打敢闯，百折不挠、披荆斩棘，进一步释放企业活力，推动中国能源建设高质量发展。

Being magnificent for 70 years, we will strive for a new era. Looking forward to the future, we will continue to forge ahead, advance bravely, and overcome all obstacles to further release our vitality and promote the high-quality development of China's energy development.

专题 Feature

精准施策，小康路上献真情

Targeted Policies on Poverty Alleviation to Contribute to Moderate Prosperity



当前，脱贫攻坚已到了决战决胜、全面收官的关键阶段。中国能建大力弘扬脱贫攻坚精神，坚决攻克脱贫攻坚的最后堡垒，毫不松懈地落实各项帮扶举措，广泛凝聚脱贫攻坚力量，巩固拓展脱贫攻坚成果，确保高质量打赢脱贫攻坚战，确保贫困人口全部脱贫，同全国人民一道迈入小康社会。

The country's battle against poverty has reached a critical stage of securing a decisive and complete victory. Energy China Group vigorously carries forward the spirit of poverty alleviation to firmly conquer the last bastion. We also unswervingly implement various assistance measures, widely gather strength, consolidate and expand our achievements to ensure a flawless victory in the battle against poverty so that all the poor are out of poverty, and enter a moderately prosperous society together with people across the country.

加强扶贫管理

Poverty Alleviation Management

中国能建深刻领会习近平总书记关于扶贫脱贫工作的系列重要讲话精神，深入贯彻落实党中央精准扶贫精准脱贫基本方略，凝心聚力，奋发作为，齐心协力助力打赢脱贫攻坚战。

Energy China Group deeply comprehends the spirit of a series of important speeches given by General Secretary Xi Jinping on poverty alleviation, and thoroughly implements the basic strategy of the CPC Central Committee to accurately eliminate poverty, and works hard together to win the battle against poverty.

Organizing the leadership to put the targeted poverty alleviation mechanisms into practice. A poverty alleviation leading group with the chairman and general manager as the team directors has been set up to comprehensively lead the targeted poverty alleviation of Energy China Group. In addition, Guangxi and Shaanxi poverty alleviation teams have been established to take charge of the work in Xilin County, Guangxi Province and Zhenba County, Shaanxi Province.

Careful planning to formulate an annual plan for poverty alleviation. The targeted poverty alleviation work plan of Guangxi and Shaanxi poverty alleviation teams were formulated to clarify the key projects and planned funds for the annual poverty alleviation, so as to ensure the smooth progress of the work.

• **组织领导，落实定点扶贫机构。**成立由董事长和总经理担任双组长的扶贫工作领导小组，全面领导中国能建定点扶贫工作；成立广西、陕西扶贫工作组，负责广西西林县和陕西镇巴县的定点扶贫工作。

• **精细谋划，制定扶贫年度计划。**制定广西扶贫工作组和陕西扶贫工作组定点扶贫工作计划，明确年度扶贫工作重点项目及计划资金，确保扶贫工作顺利开展。

• **研究部署，召开专题工作会议。**扶贫工作领导小组召开专题会议，明确2019年定点扶贫工作安排；召开扶贫工作会议，总结分析2019年扶贫工作并对2020年扶贫工作进行部署。

Studying the deployment and holding special working conferences. The poverty alleviation leading group held a special meeting to clarify the work arrangement of targeted poverty alleviation in 2019. It also held a poverty alleviation work conference to summarize and analyze the work in 2019 and make arrangements for the work in 2020.

• **领导带头，深入基层调研考察。**中国能建领导先后3次赴定点扶贫县开展专项调研考察，深入了解扶贫项目推进情况，详细了解贫困户基本情况、致贫原因以及扶贫项目实施进展情况、存在的问题和困难，加强对扶贫工作的指导。

Conducting in-depth investigations at the grassroots level. The leadership of Energy China Group visited targeted poverty alleviation counties three times in 2019 to get to know the progress of the projects, including the basic situation of poor households, the causes of poverty, existing problems and difficulties in the project implementation, so as to strengthen the guidance of poverty alleviation work.

• **选派干部，贯彻落实扶贫工作。**中国能建向西林县和镇巴县选派了2名挂职干部和2名驻村第一书记。此外，还向镇巴县增派5名驻村工作队员。



李俊峰同志（左一）荣获“2019年陕西省脱贫攻坚奖贡献奖”荣誉称号

Li Junfeng (first from the left) wins the "Contribution Award of Shaanxi Poverty Alleviation Award 2019" honorary title



镇巴定点扶贫工作座谈会
Symposium on targeted poverty alleviation in Zhenba County



中国能建党委书记、董事长汪建平一行在陕西省镇巴县开展精准扶贫调研工作

Wang Jianping, Chairman and Party Secretary of Energy China Group, leads a poverty alleviation investigation team to Zhenba County, Shaanxi Province

Appointing officials to carry out poverty alleviation work. Energy China Group has selected 2 temporary officials and 2 first secretaries stationed in villages to Xilin County and Zhenba County. In addition, 5 more village working team members were sent to Zhenba County.

李贤楚同志担任西林县央龙村第一书记，2019年荣获广西壮族自治区全区脱贫攻坚优秀第一书记荣誉称号。
Li Xianchu served as the first secretary of Yanglong Village in Xilin County and won the honorary title of Excellent First Secretary of Poverty Alleviation in Guangxi Zhuang Autonomous Region in 2019.

李峻峰同志担任镇巴县泾洋街道办蒿坪子村第一书记，2019年荣获陕西省脱贫攻坚贡献奖。

Li Junfeng served as the first secretary of Haopingzi Village, Jingyang Sub-district Office, Zhenba County, and won the Contribution Award of Shaanxi Poverty Alleviation 2019.

多维扶贫实践

Multi-dimensional Poverty Alleviation

中国能建在精准扶贫过程中，精准发力、精准施策，从基础设施建设、“两不愁三保障”、产业帮扶、电商扶贫、人才培训、教育扶贫等多维度，全方位开展脱贫攻坚工作，确保脱贫路上不落一户，不落一人。

• **聚焦短板，发力基础设施建设。**利用自身优势，通过PPP方式签约建设田林（潞城）至西林（滇桂界）高速公路。项目建成后，将有效改善沿线区域交通运输服务条件。项目实施至今已向项目所在地缴纳各项税费约 **1,700** 万元，属地招聘 **40** 余人，物资采购约 **2** 亿元。

• **解决“两不愁三保障”突出问题。**广西扶贫组开展“百日攻坚战”，投入帮扶资金 **300** 万元，完善住房保障；投入 **5** 万元开展义务教育保障，帮助贫困人口 **16** 人；投入 **1** 万元开展基本医疗保障，帮助贫困人口 **105** 人；投入 **5** 万元开展饮水安全保障，帮助贫困户安装水管，帮助贫困人口 **64** 人。

In the process of targeted poverty alleviation, Energy China Group has carried out the work in an all-round way from the aspects of infrastructure construction, “no worries about food and clothing, guarantees of compulsory education, basic medical care and housing security” (“two no worries and three guarantees” for short), industrial assistance, e-commerce, talent training, education, etc. to ensure that not one household and not a single person is left behind on the way out of poverty.

Focusing on weak links to improve infrastructure construction. Making full use of our advantages, we contracted the expressway project from Tianlin (Lucheng) to Xilin (the border between Yunnan and Guangxi) through PPP. After the completion of the project, the transportation service conditions along the route will be effectively improved. Since the implementation, about RMB 17 million of taxes have been paid to local government, over 40 people have been recruited and about RMB 200 million has been invested in purchase.

Solving the prominent problems of “two no worries and three guarantees”. Guangxi poverty alleviation team launched a “100-day battle” and invested RMB 3 million to improve housing security, RMB 50,000 to provide compulsory education for 16 poor people, RMB 10,000 to provide basic medical security for 105 poor people, and RMB 50,000 to ensure drinking water safety and help poor households install water pipes for 64 poor people.



广西扶贫工作组让村民喝上放心水
Guangxi poverty alleviation team provides villagers with safe drinking water.

• **产业扶贫，增强造血功能。**广西工作组投入帮扶资金 **100** 万元，支持足别乡 **6** 个村集体经济入股西林县鑫旺种植专业合作社，合作发展沙糖桔，每年为每个村集体增加经济收入约 **3.06** 万元，资助央龙村养羊、养牛及种植茶叶等合作社集体经济在 2019 年产生收益约 **20.8** 万元；陕西工作组投入专门资金援建青花椒储存加工与中药材加工 **2** 条自动化生产线，扩建清脆李及蚕桑特色产业项目，开展樱桃家庭式果园建设。

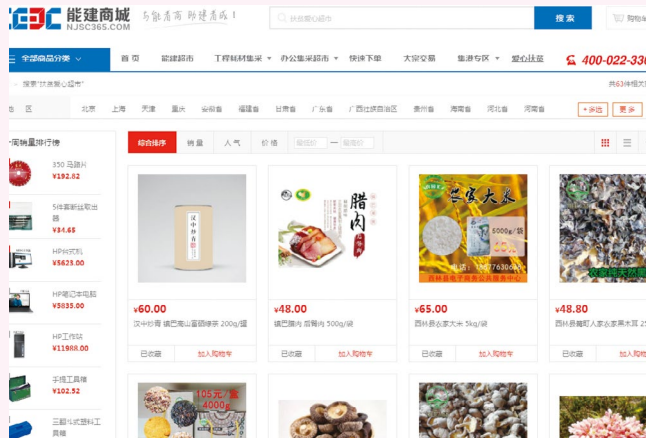
Boosting industrial development to enhance self-sufficient ability. The Guangxi poverty alleviation team invested RMB 1 million to support six village collective economies in Zubie Township, becoming the shareholders in Xinwang Planting Cooperative in Xilin County for the development of sugar orange, which increases the economic income of each village collective by about RMB 30,600 per year. The collective economy of Yanglong village, such as sheep raising, cattle raising and tea planting, generated about RMB 208,000 in 2019. The Shaanxi poverty alleviation team invested special funds to build two automatic production lines for the storage and processing of green pricklyash and the processing of traditional Chinese medicine, to expand the characteristic industrial projects of crisp plum and sericulture, and to carry out the construction of cherry family orchards.



丰收的喜悦
The joy of harvest

• **电商扶贫，打通销售渠道。**在“能建商城”互联网电商平台设置“爱心超市”专栏，累计在西林县采购农副产品 **925** 万元，在镇巴县采购农副产品 **604** 万元。引入社会资本购买当地农产品，协调八马茶叶股份有限公司与西林九龙山茶叶有限公司建立购销合作关系，帮助本地企业销售茶叶 **5.6** 万元；协助蒿坪子村民销售野生板栗、茶叶共 **8.5** 万元；与建设银行合作，在建设银行善融商城开设中国能建扶贫馆，帮助销售农产品；定点帮扶蒿坪子村原生园合作社注册“质盈”三大类商品电子商标，促进镇巴农业产业发展。

Opening market channels by e-commerce. A special column entitled “Love Supermarket” is set up on the online e-commerce platform of “Energy China Store” (<http://njsc365.com/>). The total purchase amount of agricultural and sideline products in Xilin County was RMB 9.25 million, and that in Zhenba County was RMB 6.04 million in 2019. We introduced social capital to purchase local agricultural products, coordinated the establishment of purchasing and marketing cooperation between Bama Tea Co., Ltd. and Xilin Zulong Tea Co., Ltd., and helped local enterprises to sell tea worth RMB 56,000. We also assisted Haopingzi villagers to sell wild chestnuts and tea totaling RMB 85,000, and cooperated with China Construction Bank to open Energy China Poverty Alleviation Hall in China Construction Bank's Shanrong Mall online to sell agricultural products. In order to promote the development of Zhenba agricultural industry, we helped the native garden cooperatives of Haopingzi village register three categories of electronic trademarks of “Zhi Ying”.



能建商城网站爱心扶贫超市商品
Commodities in Love Supermarket for Poverty Alleviation on Energy China Store

• **人才培养，增强造血能力。**广西工作组在西林县足别乡举办定点扶贫县基层干部培训班和黑山羊养殖技术专题培训班，帮助基层干部学习改进工作方法，帮助技术人员学习掌握“实用技术”。陕西工作组捐赠 **10 万元** 扶贫资金给农业农村局进行农村干部及农业实用技术培训。

• **教育扶贫，阻断贫困代际传递。**广西工作组通过捐赠足别乡文体用品，为贫困学生发放助学金及励志书籍等形式助力教育扶贫。陕西工作组捐赠 **50 万元** 纳入“镇巴县教育救助专项资金”统筹使用，解决建档立卡贫困家庭大学生就学困难问题。

Providing talent training to enhance the core working functions. The Guangxi poverty alleviation team held training courses for grassroots officials and special training courses on black goat breeding technology in Zubie Township of Xilin County to help them learn and improve working methods and help technicians learn and master “practical technologies”. The Shaanxi poverty alleviation team donated RMB 100,000 to the agricultural and rural bureau for official training and practical agricultural technology training.

Supporting education to block the intergenerational transmission of poverty. The Guangxi poverty alleviation team donated stationery and sporting goods to Zubie Township, and distributed grants and inspirational books to poor students. The Shaanxi poverty alleviation team donated RMB 500,000 into the Zhenba County Special Fund for Education Assistance and used it as a whole to solve the problem of filed college students from poverty-stricken families.



定点扶贫技术培训会
Technical training session for fixed-point poverty alleviation

扶贫成效显著

Remarkable Results in Poverty Alleviation

精准扶贫不仅是中國能建的政治任务，也是履行社会责任的重要体现。在精准扶贫过程中，中國能建加强扶贫管理，加大扶贫投入，在扶贫过程中动真情、用真心，真扶贫、扶真贫，出实招、见实效。

Targeted poverty alleviation is not only a political task of Energy China Group, but also an important aspect of our social responsibility. In the process of targeted poverty alleviation, we have strengthened our management and increased investment. We sincerely help the real poor, and put forward practical measures to achieve actual results.



全面超额完成定点扶贫责任书任务

Over-fulfilling the task of targeted poverty alleviation in an all-round way

中國能建全年向陕西镇巴县、广西西林县两个定点扶贫县投入帮扶资金 **1,217 万元**，为定点扶贫县引进帮扶资金 **18 万元**，购买贫困地区农产品 **1,529 万元**，帮助销售贫困地区农产品 **14.1 万元**。

Throughout the year, Energy China Group has invested RMB 12.17 million of assistance funds to the two targeted poverty alleviation counties of Zhenba County in Shaanxi Province and Xilin County in Guangxi Province. We introduced RMB 180,000 of assistance funds for the two counties, purchased agricultural products worth RMB 15.29 million from poor areas, and helped sell RMB 141,000 of agricultural products in poor areas.



两个定点扶贫县均脱贫摘帽

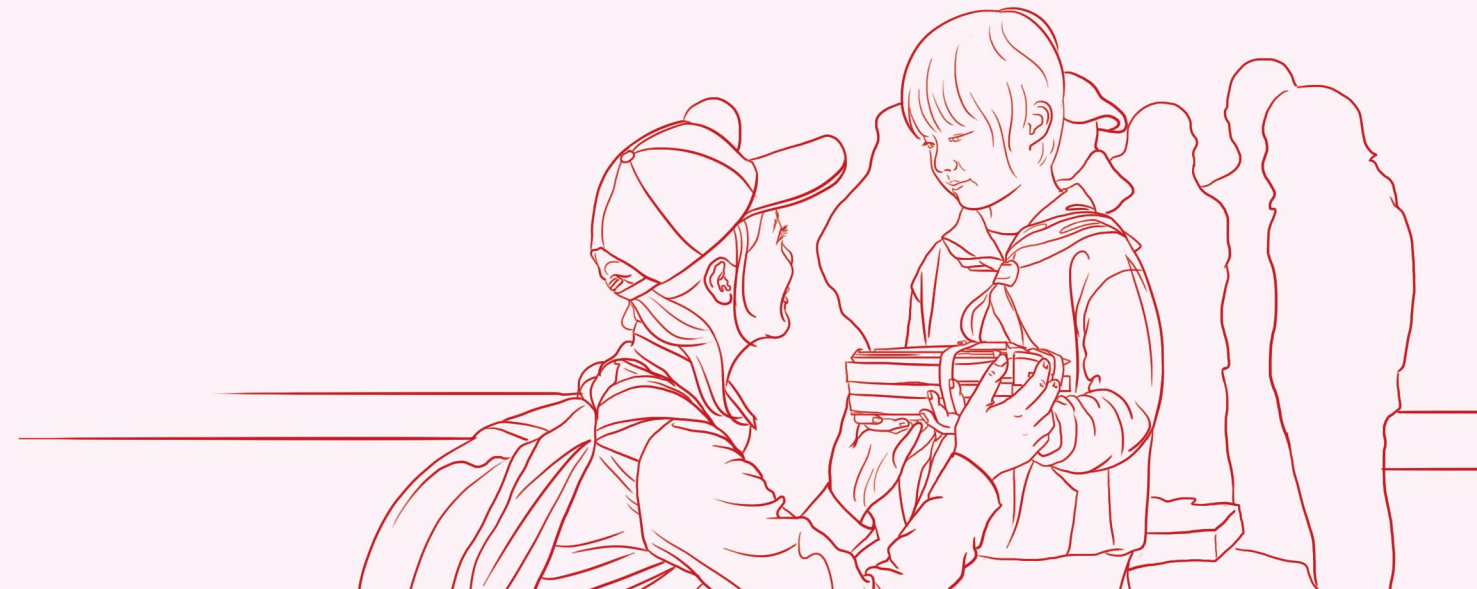
Two targeted poverty alleviation counties have lifted themselves out of poverty

截至 2019 年底，镇巴县累计实现 **129 个** 贫困村退出，**19,143 户 55,445 人** 贫困人口脱贫，贫困发生率下降到 **0.82%**。2020 年 2 月 27 日，陕西省人民政府正式批复镇巴县脱贫摘帽。

By the end of 2019, a total of 129 poverty-stricken villages in Zhenba County had exited poverty, and 55,445 people from 19,143 households had been lifted out of poverty, and the head-count ratio had dropped to 0.82%. On February 27, 2020, the People's Government of Shaanxi Province officially acknowledged that Zhenba County was lifted out of poverty.

截至 2019 年底，西林县累计实现 **38 个** 贫困村退出，**7,125 户 30,721 人** 贫困人口脱贫，贫困发生率下降到 **0.41%**。2019 年 4 月 24 日，广西壮族自治区政府正式批复西林县脱贫摘帽，成为广西西北五县第一个脱贫摘帽县。

By the end of 2019, a total of 38 poverty-stricken villages in Xilin County had exited poverty, and 30,721 people from 7,125 households had been lifted out of poverty, and the head-count ratio had dropped to 0.41%. On April 24, 2019, the Government of Guangxi Zhuang Autonomous Region officially acknowledged that Xilin County was lifted out of poverty, becoming the first in the five counties in northwest Guangxi to shake off poverty.



强管控，筑基致远

Strengthening Management to Build a Foundation for the Future



中国能建践行新发展理念，以高质量党建引领高质量发展，持续健全企业治理体系，深化各项改革，巩固业务转型成果和管理基础，稳定增长取得新成绩，战略领域市场开发实现新突破，“走出去”开创新局面，行业地位获得新提升，企业凝聚力得到新增强，为建设具有全球竞争力的世界一流工程公司打下坚实基础。

Energy China Group practices the new development concept, and leads high-quality development with premium Party building. We continuously improve the corporate governance system, deepen reforms, and consolidate the outcome of business transformation and management foundation to gain new achievements in a stable manner, to make breakthroughs in strategic market development, and to open up a new situation of “going global”. We strive to promote our industry status, and consolidate enterprise cohesion, thus laying a solid foundation for the building of a world-class engineering company with global competitiveness.

主要行动策略

Major strategic actions

- 制定《中国能源建设股份有限公司章程》和《中国能源建设股份有限公司股东大会议事规则》，明确股东大会的职责与权限。
- 推动“信用能建”系统工程建设，合力打造“信用能建”品牌，并持续开展“规章制度、经济合同、重要决策”三项法律审核。
- 组织开展风险评估，识别并评估年度重大风险，明确在市场交易等九项重点业务领域禁止商业贿赂和商业腐败。
- 采取强化管理、兼并重组、对外转让、淘汰退出等方式集中解决亏损子企业多、亏损额大的问题。持续推进剥离企业办社会的职能。



关键议题

Key topics

- 公司治理
Corporate Governance
- 党建引领
Party Leadership
- 依法合规
Compliance
- 风险管理
Risk Management
- 稳健运营
Stable Operations

Formulating the *Articles of China Energy Engineering Group Co., Ltd.* and the *Rules of Procedure of the Shareholders' General Meeting of China Energy Engineering Group Co., Ltd.* to clarify the responsibilities and authorities of the shareholders' general meeting.

Promoting the system construction and working jointly to build the brand of “Credit Energy China Group”, and keeping carrying out the three legal reviews of “rules and regulations, economic contracts and important decisions”.

Implementing risk assessment, identifying and assessing major risks during the year, and clearly prohibiting commercial bribery and corruption in nine key business areas such as market transactions.

Solving the problems of the large number of loss-making subsidiaries and the large amount of those losses through strengthening management, mergers and restructuring, external transfers, eliminations and withdrawals, and continuously pushing forward the divestment of enterprises' social functions.

核心管理绩效

Core management performance

49.06

国内新商业模式的业务完成营业额同比增长 (%)
The business turnover of the new domestic business model increased by 49.06% year on year.

29.33

完成投资额同比增长 (%)
The amount of investment completed increased by 29.33% year on year.

125.89

现金净流入 (亿元)
The net cash inflow was RMB 12.589 billion.

0.04

三项费用占营业收入比重降低 (个百分点)
The proportion of sales expenses + administrative expenses + financial expenses in operating income decreased by 0.04 percentage points.

84.78

国际非电工程签约额同比增长 (%)
The contract amount of international non-electrical engineering increased by 84.78% year on year.

72.73

资产负债率 (%)
The asset-liability ratio was 72.73%

2.24

资产负债率比 2019 年年初降低 (个百分点)
The asset-liability ratio was 2.24 percentage points lower than at the beginning of 2019



持续规范公司治理

Continuously Standardizing Corporate Governance

中国能建持续推进企业治理体系和治理能力现代化，加强和完善国有企业公司治理，为培育世界一流企业奠定坚实的基础和保障。

公司制定《中国能源建设股份有限公司章程》《中国能源建设股份有限公司股东大会议事规则》等制度，明确股东的权利和义务，股东大会的职责与权限，确保股东大会规范、高效、平稳运作及依法行使职权。公司董事会有多名独立非执行董事，在战略委员会、提名委员会、薪酬与考核委员会和审计委员会四个专门工作机构担任主任或委员。公司制修订《内幕消息管理办法》《关联交易管理规定》等制度，规范内幕消息和关联交易管理，严防利益流失，切实保护投资者权益。

Energy China Group continuously promotes the modernization of corporate governance system and capabilities, strengthens and perfects the corporate governance of a state-owned enterprise, so as to lay a solid foundation for being a world-class enterprise.

The Company has formulated systems such as the *Articles of China Energy Engineering Group Co., Ltd.* and the *Rules of Procedure of the Shareholders' General Meeting of China Energy Engineering Group Co., Ltd.* to clarify the rights and obligations of shareholders as well as the duties and authorities of the shareholders' general meeting, so as to ensure that the shareholders' general meeting operates normally, efficiently and smoothly and exercises its functions according to the laws. The board has a number of independent non-executive directors who serve as directors or members of the four specialized working bodies: the Strategy Committee, the Nomination Committee, the Remuneration and Assessment Committee and the Audit Committee. The Company has formulated and revised the *Measures for the Administration of Insider Information* and the *Regulations on the Administration of Related Transactions* and other systems to standardize relevant issues, strictly prevent the loss of benefits and effectively protect the rights and interests of investors.

1
2019 年召开股东大会 (次)

6
董事会 (次)
In 2019, we held one shareholders' general meeting, and 6 meetings of the board

112
组织编制披露公告 (份)

63
自愿性公告 (份)

49
强制性公告 (份)

We prepared 112 disclosure announcements, including 49 mandatory ones and 63 voluntary ones.

全面加强党的建设

Strengthening the Party Building in an All-round Way

中国能建以习近平新时代中国特色社会主义思想为指引，全面加强党的建设，党建工作全面进步、全面过硬，以高质量党建推动企业高质量发展迈上新台阶，为建设具有全球竞争力的世界一流工程公司提供坚强保证。

中国能建充分发挥党委领导作用，建立全面加强党的建设工作机制，修订党委常委会议事规则，完善党委前置研究讨论事项清单，制定党委落实全面从严治党主体责任清单，修订《公司党建工作责任制实施办法》，并首次对直属党委开展党建“联考联考”。围绕“中央企业基层党建推进年”重点任务，高标准高质量开展“不忘初心、牢记使命”主题教育，让广大党员干部在企业改革发展的关键时期“充电、加油”。

With the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Energy China Group comprehensively strengthens and makes all-round progress in the Party building, promotes the high quality corporate development through the above work and provides a strong guarantee for building a world-class engineering company with global competitiveness.

Energy China Group gives full play to the leading role of the Party committee. We have established a working mechanism to comprehensively strengthen the Party building, revised the rules of procedure of the Standing Committee, and perfected the list of matters to be studied and discussed beforehand. Besides, we formulated the list of main responsibilities to comprehensively strengthen self-discipline, revised the *Measures for Implementation of the Company's Party Building Responsibility System*, and carried out the "joint examination and evaluation" for directly affiliated Party committees for the first time. Focusing on the key task of the "Year of Promoting Party Building at the Grass-roots Level in Central State-Owned Enterprises", we carried out high-standard and high-quality education on the theme of "staying true to our founding mission", so that the Party members can "recharge and refuel" during the critical period of enterprise reform and development.



中国能建南方建设广电工程局召开纪念建党 98 周年座谈会

Forum to commemorate the 98th anniversary of the founding of the Party by Guangdong Electric Power Engineering Bureau of China Energy Engineering Group Southern Construction & Investment Co., Ltd.

坚持依法合规运作

Operating in Accordance with the Laws and Regulations

中国能建始终坚持依法治企、合规运作，建立结构完整、权责明确、层次清晰的合规管理制度体系，健全信用制度，加强合规审核和培训，确保依法合规经营。

Energy China Group always adheres to the rule of laws and operates in compliance. We have established a management system with complete structure, well-defined rights, responsibilities and clear levels, improved the credit system, and strengthened compliance review and training to ensured operation in accordance with the laws.

完善合规管理

Compliance management

中国能建发布《合规管理规定》《员工诚信合规手册》《重点领域合规管理负面清单》等制度，进一步明确合规运作的要求，并将内控、合规等工作纳入专项绩效考核。

Energy China Group has issued the *Regulations on Compliance Management*, the *Employee Integrity and Compliance Manual*, and the *Negative List of Compliance Management in Key Areas* to further clarify the requirements for compliance operation, and incorporate internal control and compliance work into special performance appraisal.

我们密切关注境外合规风险，定期召开海外风险管理委员会会议，并充分吸收世界银行《世界银行集团诚信合规指南》等国际规则要求，明确将反腐败、反贿赂、反不正当竞争等作为合规管理的底线，提升海外合规经营能力和水平。

We pay close attention to overseas compliance risks, hold regular meetings of overseas risk management committee, and fully absorb the requirements of international rules such as the *World Bank Group Integrity Compliance Guidelines* to explicitly take anti-corruption, anti-bribery and anti-unfair competition as the bottom line, so as to enhance the capability of overseas compliance operations.

注重合规审核

Compliance audit

中国能建持续开展“规章制度、经济合同、重要决策”三项法律审核，切实发挥审核在 EPC 项目、投资并购项目、融资担保、PPP 等生产经营业务中的风险防控作用。发布《PPP 项目法律合规审核要点》，推动法律审核向法律合规综合审核的职能转变。

Energy China Group continues to carry out three legal audits of “rules and regulations, economic contracts and important decisions”, and effectively plays the role of risk prevention and control in EPC projects, investment and M&A, financing guarantees, PPP, etc. We have released the *Key Points of Legal Compliance Audit of PPP Projects* to promote the functional transformation from legal review to comprehensive compliance audit.

加强合规培训

Compliance training

中国能建开展管理层、专项业务、宣传教育三个层次的合规培训活动，营造全员合规的良好氛围。

Energy China Group carries out compliance training at three levels: management, special business, and publicity and education to create a good atmosphere for all employees.



中国能建天津电建举办工程项目法律风险与争议防范专题培训
Special training on legal risk and dispute prevention of engineering projects held by China Energy Engineering Group Tianjin Electric Power Construction Co., Ltd.

坚决防范重大风险

Resolutely Preventing Major Risks

中国能建贯彻落实党中央、国务院关于防范化解重大风险的战略部署，加强风险管理和风险评估，防范化解重大风险，以高质量发展推动建设具有全球竞争力的世界一流企业。

Energy China Group implements the strategic deployment of the CPC Central Committee and the State Council on preventing and resolving major risks, strengthens risk management and assessment, and promotes the building of a world-class company with global competitiveness through high-quality development.

2019 年，中国能建组织开展风险评估，识别并评估政策风险、国际化经营风险、工程项目管理风险等七项年度重大风险，认真落实各类风险防控措施和重点工作计划，不断健全完善内控体系，确保全年各项风险可控、受控。

In 2019, Energy China Group organized and carried out risk assessment, identified and evaluated seven major annual risks including policy risks, international operation risks and project management risks. We earnestly implemented various risk prevention and control measures and key work plans, and continuously perfected the internal control system to ensure that all risks were controllable throughout the year.

稳步提升经营绩效

Steadily Improving Operating Performance

中国能建按照党中央、国务院“三去一降一补”和深化供给侧结构性改革的决策部署，结合瘦身健体、提质增效、转型升级等工作，坚持目标与问题导向，全面推进供给侧结构性改革，助推整体经营绩效稳步提升。

In accordance with the arrangements of the CPC Central Committee and the State Council on “five priority tasks” and the supply-side structural reform, Energy China Group adheres to the goal-and-problem orientation, and comprehensively pushes forward the supply-side structural reform to promote the overall operating performance in combination with streamlining, improving quality and efficiency, transforming and upgrading.

国内新商业模式业务发展较快

The new domestic business model develops rapidly

完成国内新商业模式业务营业额同比增长 49.06%。小额参股拉动工程承包新签合同额同比大幅增长。4 家建投公司合计完成国内新商业模式新签合同额同比增长 68.65%。

The turnover of the new domestic business model has increased by 49.06% year on year. The small amount of equity participation led to a substantial increase in the amount of new contracts signed year on year. The total number of new contracts signed by the four construction and investment companies for the new domestic business model has increased by 68.65% year on year.

国际非电工程签约增势强劲

The number of signed international non-electrical projects grows strongly

签约了蒙古铁路项目、沙特民爆项目、墨西哥工业园项目等一批大型非电工程，签约额同比增长 84.78%。

A number of large-scale non-electrical engineering, such as Mongolia railway project, Saudi Arabia civil explosion project and Mexico industrial park project have been signed, with the signing amount increasing by 84.78% year on year.

非电工程和工程总承包业务规模效益稳步提升

The scale benefits of non-electrical engineering and EPC business have been steadily enhanced

完成非电工程和工程总承包新签合同额同比分别增长 20.95%、0.01%。

The number of new contracts completed for non-electrical projects and EPC projects increased by 20.95% and 0.01% respectively year on year.

投资力度加大

Increased investment

完成投资额同比增长 29.33%，其中，融资建设投资同比增长 54.36%，占总投资的 69.26%。已投运项目运营良好；在建投资项目进展顺利，清洁能源投资项目创年度开工最大规模；对砂石骨料、生态治理、交通市政等转型领域投资进行了积极探索。

The completed investment amount increased by 29.33% year on year, among which the investment in construction financing increased by 54.36%, accounting for 69.26% of the total. The projects that have been put into operation are in good shape. The investment projects under construction are progressing smoothly, and the clean energy investment projects have reached the largest scale of the year. We have actively explored investments in sand and gravel aggregates, ecological management, transportation and municipal services and other transformation fields.

金融服务主业作用明显增强

The service role of finance for the main business intensifies significantly

加大融资协调力度，强化与金融机构“总对总”协调机制；财务公司自营贷款余额同比增长 49.68%；以融资租赁促签约、促清欠取得更大成果；多种形式的基金融资顺利推进。

Financing coordination and the “general to general” coordination mechanism with financial institutions has been continuously strengthened. The balance of proprietary loans by Group Finance Co., Ltd. increased 49.68% year on year. Greater achievements have been made in promoting contract signing and debt clearing through financial leasing, and various forms of fund financing have been successfully enhanced.

经营业绩

Business performance

指标 Indicator	2019 年 2019	同比变化 Year on year change
营业收入（亿元） Operating revenue (RMB 100 million)	2,494.68	增加 10.35% Up 10.35%
新签合同总额（亿元） Total amount of new contracts signed (RMB 100 million)	5,217.33	增加 12.43% Up 12.43%
资产总额（亿元） Total assets (RMB 100 million)	4,252.82	增加 7.24% Up 7.24%
所有者权益（亿元） Owner's equity (RMB 100 million)	1,159.55	增加 16.87% Up 16.87%

国际化经营

Global operation

指标 Indicator	2019 年 2019	同比变化 Year on year change
在“一带一路”沿线国家完成新签合同额（亿元） Newly signed contracts in countries along “The Belt and Road”(RMB 100 million)	1,229.03	增加 15.22% Up 15.22%
营业收入（亿元） Operating income (RMB 100 million)	405.84	增加 4.1% Up 4.1%
利润总额（亿元） Total profit (RMB 100 million)	42.71	增加 12.3% Up 12.3%

投资业务

Investment business

指标 Indicator	2019 年同比变化 Year on year change
投资总额 Total investment	增加 29.33% Up 29.33%
固定资产投资 Fixed investment assets	减低 0.25% Down 0.25%
股权投资 Equity investment	减低 44.49% Down 44.49%
房地产开发投资 Real estate investment	增加 0.87% Up 0.87%
融资建设投资 Construction financing	增加 54.36% Up 54.36%

经营效益

Operation performance

指标 Indicator	2019 年 2019	同比变化 Year on year change
利润总额（亿元） Total profit (RMB 100 million)	124.40	增加 7.32% Up 7.32%
净利润（亿元） Net profit (RMB 100 million)	92.50	增加 4.98% Up 4.98%
资产负债率（%） Asset-liability ratio (%)	72.73%	降低 2.24 个百分点 2.24 percentage points lower
成本费用占营业收入比重（%） Cost and expense account for the proportion of operating revenue (%)	96.51%	增加 0.13 个百分点 0.13 percentage points higher

凝匠心，品质至臻

Cultivating Craftsmanship to Create Premium Projects



中国能建勇担央企责任，践行新发展理念，拿出逢山开路的勇气、遇水架桥的闯劲，以提高质量效益和核心竞争力为中心，积极适应市场形势变化，加强质量管理和科技创新，建设精品工程，提升客户服务，实现高质量、可持续发展。

Energy China Group bravely takes the responsibility of a central SOE and practices new development concepts. We have the courage to break through when confronted by challenges, take the improvement of quality and efficiency and core competitiveness as the center, and actively adapt to changing market trends. We also strengthen quality management and technological innovation, and build excellent projects to enhance customer service and achieve high-quality, sustainable development.

关键议题

Key topics

- 精品工程
Excellent Engineering
- 质量管理
Quality Management
- 客户服务
Customer Service
- 创新发展
Innovation-driven Development

核心管理绩效

Core management performance

20

荣获国家优质工程奖 (项)
Won 20 National Quality Project Awards

43

荣获国家级和国际工程质量奖 (项)
Won 43 National and International Engineering Quality Awards

151

荣获行业级科学技术奖 (项)
Won 151 Industrial-level Science and Technology Awards

71.4

科技投入 (亿元)
RMB 7.14 billion invested in science and technology

63.61

研发投入 (亿元)
RMB 6.361 billion invested in R&D

1,424

新增专利 (项)
Obtained 1,424 new patents

17.08

新技术推广直接经济效益 (亿元)
Direct economic benefits from the promotion of new technologies: RMB 1.708 billion.

主要行动策略

Major strategic actions

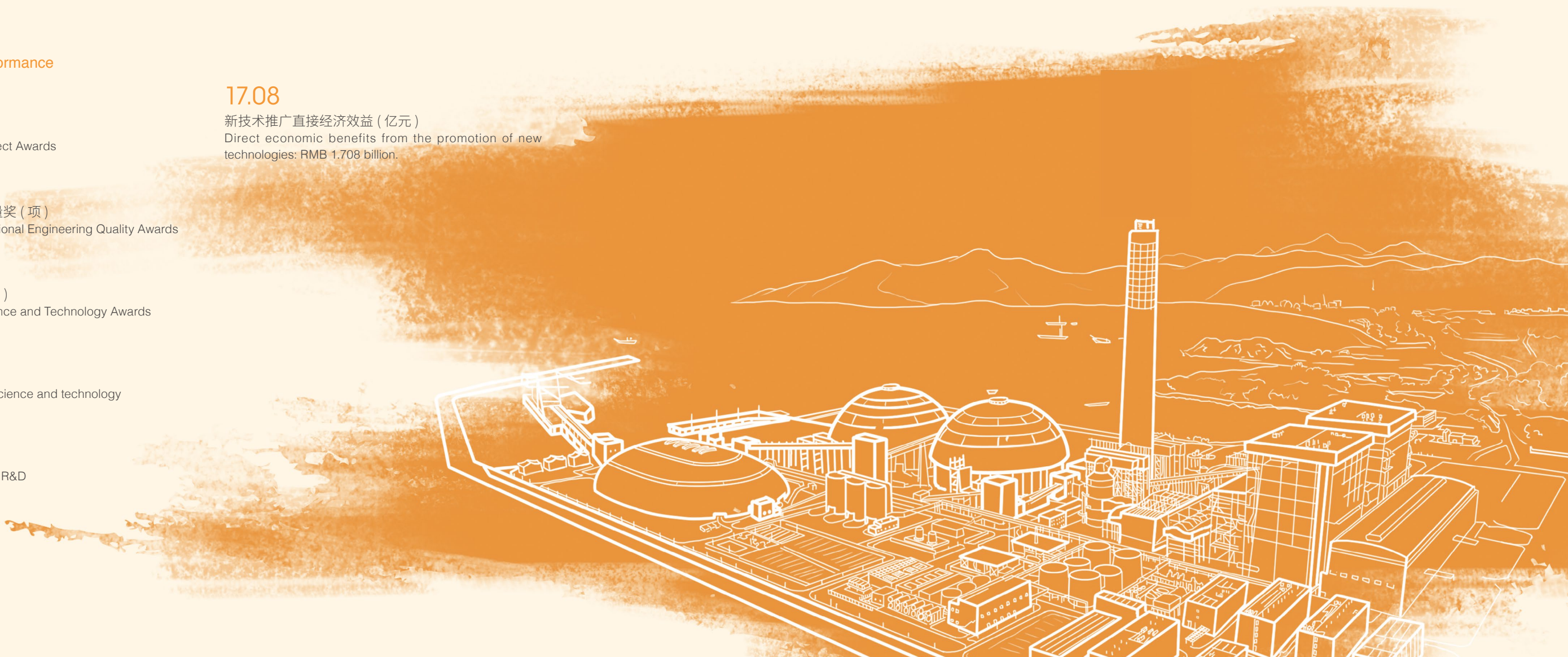
- 发挥企业优势，承接重大国家级项目，打造精品设计、咨询、建设、投资工程。
- 健全质量管理体系，完善质量管理措施，加强质量管理绩效，为客户提供精益设计、精品工程和精良装备。
- 加强客户服务能力，保证客户服务质量，落实客户隐私保护，及时反馈客户需求，以优质的项目服务回馈客户期许。
- 完善科研管理体系，加大科技创新激励，提升科研投入，加强科研成果转化，探索信息化管理创新。

Giving full play to our advantages to undertake major national projects to create high-quality design, consultation, construction and investment projects.

Improving the quality management system, perfecting relevant measures, and strengthening the quality management performance, to provide customers with lean design, excellent engineering and superior equipment.

Strengthening customer service capability to ensure customer service quality, implementing customer privacy protection and timely feeding back customer needs to pay back customer expectations with high-quality project services.

Improving the scientific research management system, enhancing incentives for S&T innovation, increasing investment in scientific research, strengthening the transformation of research achievements, and exploring the information management innovation.



打造高质量精品工程

Building Excellent Projects

中国能建秉持“行业领先，世界一流”的战略愿景，发挥自身优势，全面参与雄安新区、长江大保护、粤港澳大湾区、海南自贸区等重大工程的建设，在国家系列重大发展战略、重大工程项目中彰显央企担当。

高品质规划咨询

High quality planning and consultation

我们发挥勘测设计及咨询业务优势，在发电、电网、非电等全领域提供高品质的勘察设计和咨询服务，以精品规划设计促精品工程建设。

- 舟山 500 千伏联网工程是我国电力建设史上规模最大、技术难度最大的跨海联网输变电工程之一，创造了建设世界最高输电高塔、敷设世界首条 500 千伏交联聚乙烯海缆等 14 项世界纪录。

Zhoushan 500 kV interconnected power transmission and transformation project is one of the largest and most technically difficult cross-sea projects of its kind in this field of China. It has set 14 world records, including the construction of the tallest transmission tower and the laying of the first 500 kV cross-linked polyethylene submarine cable.

- 苏通 GIL 综合管廊工程在世界上率先采用了特高压 GIL 输电全套技术，是目前世界上电压等级最高、输送容量最大、技术水平最高的超长距离 GIL 创新工程。

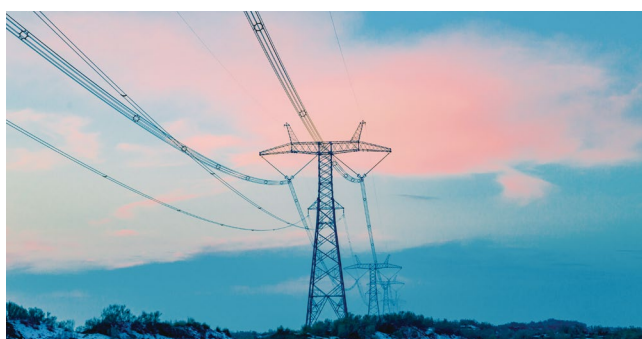
Sutong GIL utility tunnel project is the first in the world to adopt a full set of UHV GIL transmission technologies. It is currently an ultra-long GIL innovation project with the highest voltage level, the largest transmission capacity and the highest technical level in the world.

- 准东—皖南 ±1,100 千伏特高压直流输电线路工程是目前世界上电压等级最高、输送容量最大、输电距离最远、技术水平最先进的直流工程，是国际高压直流输电的重要里程碑。

Zhundong-Wannan ±1,100 kV UHV DC Transmission Project is currently the DC project with the world's highest voltage level, largest transmission capacity, longest transmission distance and most advanced technology, and also an important milestone in international HV DC transmission.

Adhering to the strategic vision of "World-class Industrial Leader", Energy China Group, with its own advantages, has fully participated in the construction of Xiongan New Area, well-coordinated environmental conservation of the Yangtze River, Guangdong-Hong Kong-Macao Greater Bay Area, Hainan Free Trade Port and other major projects, highlighting the responsibilities of a central SOE in a series of national major development strategies and projects.

We give full play to the advantages of survey, design and consulting services, provide high-quality services in above aspects for all fields, such as power generation, grid and non-electricity, and promote the construction of quality projects with excellent planning and design.



- 巴基斯坦塔尔 2×330 兆瓦 CFB 燃煤电站 2 号机组是推进中巴经济走廊建设优先发展项目之一，也是中巴经济走廊首个煤电一体化项目。

The Unit 2 of Thar 2 × 330 MW CFB Coal Fired Power Plant Unit 2 in Pakistan is one of the priority development projects to promote the construction of China-Pakistan Economic Corridor ("CPEC"), and is also the first coal power integration project along the CPEC.

高标准工程建设

High-standard engineering construction

我们以高标准、严要求推进工程建设，承建多项国内外电力和非电建设项目，不断发挥专业优势，打造优质工程。

- 珠海国家能源互联网示范工程是世界首个建设完成的三电压等级 4 端柔性直流配电网 + 直流微网示范工程，标志着我国柔性直流配用电成套技术从实验室成功走向工业应用。

Zhuhai National Energy Internet Demonstration Project is the world's first three-voltage-level four-terminal flexible DC distribution network + DC microgrid demonstration project, marking the successful transition of China's flexible DC distribution technology from laboratory to industrial application.

- 印尼芝拉扎燃煤电站三期 100 万千瓦机组是印尼最大单机容量燃煤发电机组，同时也是我国出口海外并投入商运的首台百万千瓦负荷燃煤机组。

Cilacap 1 GW coal-fired unit (Phase III) has the largest single unit capacity in Indonesia, and it is also China's first 1 GW coal-fired unit exported overseas and put into commercial operation.

- 国电宁夏方家庄电厂 2×1,000 兆瓦机组工程 2 号机组项目是国内首个智能深度调峰的 1,000 兆瓦火电机组，也是首个试运行期间完成机组优化、性能试验的机组。

Unit 2 of Guodian Ningxia Fangjiazhuang 2 × 1 GW Power Plant is the first 1 GW thermal power unit with intelligent deep peak regulation in China, and it is also the first to complete unit optimization and performance test during trial operation.



We push forward the construction of projects with high standards and strict requirements, and undertake a number of domestic and international electrical and non-electrical construction projects, continuously giving full play to our professional advantages to create high-quality projects.



- 湖北枣阳至潜江高速公路江汉运河特大桥全长 1,037 米，跨南水北调配套工程引江济汉工程。项目部积极弘扬工匠精神，实现高精度合龙，将江汉运河特大桥建设成为“内优外美”的悬浇桥样板工程。

高水准投资业务

High-level investment business

中国能建积极转型发展，发挥“投资 - 建设 - 运营”全产业链一体化优势，高质量开展公路、园林等投资、建设和运营系列业务，为基础设施建设行业注入鲜活活动力。

- 邢台园博园项目由中国能建投资建设并负责运营，投资总金额 32.65 亿元。经过六个月的团结攻坚战，按质按量完成项目建设工作，以“能建效率”创造了“邢台奇迹”。
The Xingtai Garden Expo Park is invested and operated by Energy China Group, with a total investment of RMB 3.265 billion. After six months of hard work, the project construction was completed with high quality creating the “Xingtai Miracle” with “Energy China Group efficiency”.

- 国家高速德上线巨野至单县（鲁皖界）段 BOT 项目是鲁皖联系的唯一南北向省际高速通道，全长 115.49 公里。本项目正式通车运营，标志着中国能建在山东省投资建设的第一条高速公路建成通车，助力山东省实现“十三五”发展规划中“县县通高速”目标。
The BOT Project from Juye to Shan County Section (Shandong-Anhui Boundary) on the national Dezhou-Shangrao Expressway is the only north-south inter-provincial high-speed channel linking the two provinces, with a total length of 115.49 km. The project was officially put into operation in 2019, marking the completion of the first expressway invested and constructed by Energy China Group in Shandong Province and helping Shandong Province to achieve the goal of “every county in China having access to highways” in the 13th Five-Year Plan (2016—2020).



The Jiangnan Canal Super Large Bridge on the Zaoyang-Qianjiang Expressway in Hubei Province has a total length of 1,037 meters and spans from the Yangtze River to the Han River of the South-to-North Water Diversion Project. The project department actively promoted the craftsmanship spirit, realized high-precision closure, and built Jiangnan Canal Super Large Bridge into a model project, a suspended pouring bridge with “internal superior excellence quality and aesthetic external appearancebeauty”.

Energy China Group is actively transforming and developing, with the full use of its advantage within the whole industry chain and the integration of “investment-construction-operation”, the company carries out a series of high quality investment, construction and operation businesses in highways and landscape sectors, thus injecting fresh impetus into the infrastructure construction.



- 新疆大石峡水利枢纽工程是国家 172 项节水供水重大水利工程之一，项目总投资 89.97 亿元，建成后将成为世界最高混凝土面板坝。
Xinjiang Dashixia Water Conservancy Project is one of 172 major water conservation and supply projects in China, with a total investment of RMB 8.997 billion. Upon completion, it will become the world's highest concrete face dam.



深化质量管理机制

Deepening Quality Management Mechanism

中国能建不断完善质量管理体系和考核机制，提升质量意识，强化质量监督，以高质量产品、服务筑牢发展根基。

Energy China Group continuously improves the quality management system and assessment mechanism, enhances quality awareness, and strengthens quality supervision to lay a solid foundation for development with high-quality products and services.

加强质量管理

Quality management

中国能建严格遵守《中华人民共和国产品质量法》《建设工程质量管理条例》《建设工程勘察设计管理条例》等国家和行业相关规定及标准，制定年度质量工作计划，编修工程项目管理制度，落实质量风险识别与评价，持续深入开展质量提升行动。

Energy China Group strictly abides by relevant national and industry regulations and standards such as the Product Quality Law of the People's Republic of China, the *Regulations on Quality Management of Construction Projects* and the *Regulation on the Administration of Survey and Design of Construction Projects*. We have formulated the annual quality work plans, compiled and revised the project management systems, and implemented quality risk identification and evaluation, and continue to carry out actions for in-depth quality improvement.

2019 年，中国能建工程质量验收合格率、装备产品出厂合格率、工业产品出厂合格率和勘察设计成品报告合格率均达到 100%，未发生质量事故，竣工项目验收质量满足合同要求。

In 2019, the qualification rate of engineering quality acceptance, equipment qualified rate, industrial product qualified rate, and qualified rate of survey and design finished product reports of the Energy China Group all reached 100%, without any quality accident, and the acceptance quality of the completed project met the contract requirements.

提升质量意识

Quality awareness

2019 年，中国能建组织策划了“质量月”、QC 小组等各类活动，开展培训宣传，组织知识竞赛，营造人人重视、全员参与的良好氛围，增强全员质量意识，提高生产效率和安全质量保障。

In 2019, Energy China Group organized and planned various activities such as “Quality Month” and QC group. We carried out training and publicity, and organized knowledge competitions, to create a good atmosphere for everyone to attach importance to and participate in, so as to enhance the quality awareness of all employees, and improve production efficiency and safety, quality assurance.

案例
Case

设定“9·15”质量警示日，提升全员质量意识 Setting “9.15” quality warning day to enhance quality awareness of all

广东火电设定 9 月 15 日为“质量警示日”，号召所属各单位积极围绕警示日主题开展系列活动，采取专题会议、站班会等各种形式进行警示教育，让员工对法规守规则、对质量知敬畏、对风险存戒惧、对行为守底线，夯实质量基础，提升质量管理软实力和全员质量意识。

Guangdong Power Engineering Co., Ltd. has set September 15 as the “Quality Warning Day”, calling on all subordinate organizations to actively carry out a series of activities around the theme, and to launch warning education in various forms such as special conferences and pre-shift meetings, so that employees can abide by laws and regulations, strive for quality, be wary of risks, and abide by the bottom line of behaviors, which will consolidate the quality foundation, and enhance the soft power of quality management and awareness of all employees.

案例 Case

发布 QC 成果，激发质量管理积极性

Releasing QC results to stimulate quality management initiative

12 月 27 日，葛洲坝集团第三工程公司召开 2019 年 QC 成果发布会。各所属企业深入交流了 11 项 QC 小组活动成果，并推选 DASU 水电站项目部《降低喷射混凝土回弹率》等 5 项成果至省部级行业协会进行交流发布。QC 成果发布会创造了质量控制先进经验交流机会，激发了各单位质量管理积极性，充分发挥了 QC 小组的活动效应。

On December 27, China Gezhouba Group No.3 Engineering Co., Ltd held the 2019 QC results conference. All affiliated enterprises exchanged the results of 11 QC group activities in depth, and elected 5 achievements, such as the *Reduction of Rebound Rate of Sprayed Concrete* of DASU Hydropower Plant Project Department to provincial and ministerial industry associations for exchange. The QC results conference created an opportunity to exchange advanced experience in quality control, stimulated the enthusiasm of each organization in quality management, and gave full play to the activity of QC team.



质量创优成果

Achievements of quality management

依托于严格完善的质量管理体系、深化于心的质量安全意识，我们的质量管理工作获得了广泛认可。2019 年，所属企业共获得国家级和国际工程质量奖项 43 项。其中，1 项工程入选庆祝中华人民共和国成立 70 周年经典工程，8 项工程获得国家优质工程金质奖，12 项工程获得国家优质工程奖，4 项工程获得菲迪克工程奖，2 项工程获得中国建设工程鲁班奖，13 项工程获得中国安装工程优质奖，2 个项目获得 2019 年第二届中央企业 QC 小组发表赛一等奖，1 个项目获得 2019 年第二届中央企业 QC 小组发表赛二等奖。

Relying on the strict and perfect quality management system and deepening the quality and safety awareness, our quality management work has been widely recognized. In 2019, our affiliated enterprises won 43 national and international engineering quality awards. Among them, one project was selected as a classic project to celebrate the 70th anniversary of the founding of the People's Republic of China, 8 projects won the National Quality Project Gold Awards, 12 projects the National Quality Project Awards, 4 projects the FIDIC Project Awards, 2 projects the China Construction Engineering Luban Prizes, 13 projects the China Installation Engineering Quality Awards, as well as 2 projects the first prize and 1 project the second prize in the 2019 Second Session of Central SOE QC Group Publishing Competition.



杭州九峰垃圾焚烧发电工程荣获中国建设工程鲁班奖

Hangzhou Jiufeng Waste Incineration Power Generation Project wins China Construction Engineering Luban Prize.

追求更高客户满意度

Pursuing Higher Customer Satisfaction

我们坚持诚信守约、追求卓越的服务理念，努力提升资质等级，确保各项目顺利履约，提升客户满意度，与客户建立可持续发展的互惠共赢关系。

We adhere to the service concept of honesty, compliance and pursuit of excellence. We also strive to improve the qualification level to ensure the smooth performance of projects, improve customer satisfaction, and establish a sustainable mutually beneficial and win-win relationship with customers.

加强资质保障

Qualification guarantee

中国能建以高等级资质为保障，为客户提供理念先进、专业领先、质量过硬的各类项目服务。我们拥有涵盖规划咨询、勘测设计、工程承包、装备制造、投资运营等全业务链的各项资质权益近 1,400 项，主要包括工程施工总承包特级资质 9 项、工程设计综合类甲级资质 8 项、工程勘察综合类甲级资质 20 项、房地产开发一级资质 2 项等行业最高等级资质，以及对外援助成套项目 A 级实施企业资格、外事审批权等高等级权限。

With high-level qualification as the guarantee, Energy China Group provides all types of industry-leading project services with advanced concepts and excellent quality. We have nearly 1,400 qualification rights and interests covering the whole business chain of planning consultation, survey and design, engineering contracting, equipment manufacturing, investment and operation, mainly including 9 special-grade qualifications for general contracting of engineering construction, 8 comprehensive Grade-A qualifications for engineering design, 20 comprehensive Grade-A qualifications for engineering survey, 2 first-grade qualifications for real estate development and other industry-level qualifications, as well as Grade-A foreign aid project implementation enterprise, foreign affairs approval authority and other high-level authorities.

完善信用建设

Credit construction

中国能建积极推动“信用能建”系统工程建设，合力打造“信用能建”品牌，以优良的信用提升客户信任，更好地确保客户服务能力。我们开发计划统计信息系统信用体系建设模块，预计 2020 年 1 月投入运行，初步实现企业信用信息归集的信息化报送及管理。2019 年，中国能建荣膺中国对外承包工程商会与中国机电产品进出口商会 AAA 级信用评价。

Energy China Group actively promotes the construction of the “Credit Energy China Group” system, and makes joint efforts to create the brand, so as to enhance customer trust with excellent creditability, and provide better customer service. We are developing the credit system construction module of the planned statistical information system, which is expected to be put into operation in January 2020, by then we will preliminarily realize the information submission and management of enterprise credit information collection. In 2019, we won the AAA credit rating of China International Contractors Association and China Chamber of Commerce for Import and Export of Machinery and Electronic Products.

中国能建总部
Headquarters of
Energy China Group

二级单位
Secondary organizations

三级单位
Tertiary organizations

- 战略管控型总部职能。在信用体系建设中“强化引导、搭建体系、管控重点、凝聚合力”。

Function: strategic management and control. The headquarters “strengthens guidance, builds the system, manages key points, and unites forces” in the construction of credit system.

- 战略实施和经营管控功能。在信用体系建设中既自身作为“两个主体”履行信用主体责任，又作为主管单位履行对下属单位的信用主管责任。

Function: strategy implementation and operation control. The secondary organizations not only perform the responsibility of credit subject as “two entities”, but also perform the responsibility of credit supervisor to subordinate organizations as the competent organization in the construction of credit system.

- 作为最直接面对市场、负责具体业务执行和项目履约、开展生产经营的“两个主体”，也是具体信用主体，在信用体系建设中全面履行信用主体责任。

As the most market-oriented “two entities” which is responsible for the specific business implementation, project performance, production and operation, the tertiary organizations are also the specific subject of credit and fully perform the responsibility of credit subject in the construction of credit system.

中国能建信用工作组织体系
Energy China Group Credit Organization System

提升响应能力

Responsiveness improvement

我们用心倾听客户声音，不断完善管理制度，优化服务方式，提升反馈效率，在服务全流程高质高效响应客户诉求。

We listen attentively to customers' voices, continuously improve the management system, optimize service methods, improve feedback efficiency, and respond to customers' demands with high quality and efficiency in the whole service process.

- 对投诉较多的企业，下发《关于加强项目履约管理的通知》，要求按周报送投诉项目履约进展

Affiliated enterprises receiving more complaints are required to issue the *Notice on Strengthening the Management of Project Performance*, and submit the progress of performance of the complained projects on a weekly basis.

- 对重点投诉项目现场督导，主动与业主沟通，协商解决方案

On-site supervision is provided for key complained projects, and active communication should be made with the clients for resolution negotiation.

- 组织开展质量排查整治，督促项目质量问题整改、复盘，形成闭环

Efforts are made to organize and carry out quality inspection and rectification. The rectification of project quality problems is supervised and urged to form a closed loop.

- 上报排查治理、质量提升、现状调查等情况报告

The troubleshooting management, quality improvement, and status investigation are supposed to be submitted.



- 组织召开业主投诉项目履约专题会议，及时响应

Special meetings on clients' complaints on project performance are held to give timely response.

- 研究制定应对措施和解决方案，妥善处理投诉

Countermeasures and solutions are proposed to properly handle complaints.

- 发挥集团平台优势，与业主高层对接，将所属单位诉求及时向业主反馈，加强与业主单位沟通协调，促进相互信任、理解和支持

With the advantages of the Group, communication is made with the management of the clients to feed back the demands of the affiliated enterprises in a timely manner. Communication and coordination with the clients are strengthened to promote mutual trust, understanding and support.

案例 Case

推行“三层次服务”，提升客户满意度

Promoting "three-level service" to improve customer satisfaction

安徽电建一公司聚焦客户需求，全面推行充分、优化与超值的“三层次服务”理念，形成了完备的客户关系建立和维系、在建客户满意度测量、客户投诉处置和工程回访的客户管理程序，并以履约过程电话回访、函件联络及现场交流等方式积极应对客户诉求，快速推进问题处置，在建项目客户满意度连续多年达 95% 以上。

Anhui No.1 Electric Power Construction Co., Ltd. of China Energy Engineering Group focuses on customer needs, and fully supports implements the concept of considerate, optimized, and value-added service concept of "three-level service", which is full, optimized and value-based. It has formed a complete customer management procedure for establishing and maintaining customer relationship, measuring customer satisfaction of projects under construction, handling customer complaints and project return visit. It also actively responds to customer demands by telephone, letter contact and on-site communication. The customer satisfaction of projects under construction reached more than 95% for many consecutive years.

保护客户信息

Protection of customer information

中国能建将客户信息安全视为客户关系管理体系的重中之重，建立了健全的保密工作机制，对客户信息分级管理、分权限运行，加强员工信息安全能力建设，为客户信息安全提供可靠保障。报告期内，未发生国内市场客户隐私泄露问题。

Energy China Group regards information security as the top priority of the customer relationship management system. We have established a sound confidentiality mechanism, managed customer information at different levels and operated with different authorities. We have also strengthened the capacity building of employees' information security capacity to provide reliable guarantee for customer information security. In 2019, there was no breach of customer privacy in the domestic market.

打造创新发展引擎

Building an Engine of Innovation-driven Development

中国能建秉持“创新是引领发展的第一动力”的理念，提高企业自主创新能力和核心竞争力，坚持以科技创新作为催生新动能，打造可持续发展的强大引擎。

Energy China Group adheres to the concept of "Innovation is the primary engine of development". We always improve our independent innovation capability and core competitiveness, and stick to scientific and technological innovation as a new driving force to create a strong engine for sustainable development.

完善创新体系

S&T Innovation system

中国能建不断完善科技创新体系，形成了由科学技术委员会、专业委员会、总部科技信息部、所属单位科技管理部门组成的科技管理组织体系，和以电规总院、工程研究院（科技发展公司）、3 个国家级和 47 个省级研究机构、3 个院士专家工作站、11 个博士后科研工作站为主体的科技创新研发体系，高新技术企业总数达到 93 家。

We continuously improve our S&T innovation system. We have formed a management organization system composed of the science and technology committee, the professional committee, technology development & information management department of the headquarters and technology development & information management departments of subordinate organizations. We have also formed an innovation R&D system comprising the Electric Power Planning & Engineering Institute, the Engineering Institute of China Energy Engineering Group Co., Ltd. (science and technology development company), 3 national and 47 provincial research institutions, 3 academician expert workstations and 11 postdoctoral research workstations, bringing the total number of high-tech enterprises to 93.

我们建立了重大科技专项、众筹科技项目、各单位自主立项三个层次的研发机制。2019 年，中国能建科技投入 71.4 亿元，科技投入比达到 2.87%；研发投入 63.61 亿元，研发投入比达到 2.55%，科技投入和研发投入均保持稳步增长。

加速信息化建设 IT-based management

我们进一步健全信息化制度体系，完善工作机制，推进管理信息系统建设与集成共享，深化主营业务应用和新技术融合，加强信息化基础设施建设，增强网络安全防护水平，荣获一批信息化管理和应用优秀成果。



- 山西院“新疆博州 750 千伏变电站数字化设计应用”、葛洲坝装备公司“高端装备云服务平台”、中南院“基于 GNSS 和物联网的电力工程安全监测云平台”获电力行业两化融合优秀解决方案奖
The “Digital Design and Application of 750 kV Substation in Bozhou, Xinjiang” of Shanxi Electric Power Engineering Co., Ltd, the “High-end Equipment Cloud Service Platform” of CGGC Equipment Industry Co., Ltd and the “Power Engineering Safety Monitoring Cloud Platform Based on GNSS and Internet of Things” of Central Southern China Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group won the Outstanding Solution Award for integration of informatization and industrialization in the power industry.
- 甘肃院“基于云技术的企业网络安全整体解决方案”获中央企业“智能+”网络安全优秀解决方案奖
The “Overall Solution to Enterprise Network Security Based on Cloud Technology” of Gansu Electric Power Design Institute Co., Ltd won the “Intelligent+” network security excellent solution award of central SOEs
- 中国能建组队参加全国工控系统安全攻防专委会举办第五届工控系统信息安全竞赛并获得优秀奖
Energy China Group participated in the 5th Industrial Control System Information Security Competition held by the National Industrial Control System Security Attack and Defense Committee and won the excellent award.

We have set up a three-layered R&D mechanism, namely, major technological projects, crowd-funding technological projects, and subsidiaries' own projects. In 2019, the S&T investment was RMB 7.14 billion, with an investment ratio of 2.87%. The investment in R&D was RMB 6.361 billion, with the ratio reaching 2.55%. Both the investments in S&T and R&D maintained steady growth.

To further improve the information system and perfect the working mechanism, we promote the construction, integration and sharing of management information systems, deepen the integration of main business applications and new technologies, strengthen the construction of information infrastructure, and enhance the level of network security protection. In 2019, we won a number of outstanding achievements in information management and application.

科技成果丰硕 Fruitful S&T achievements

2019 年，中国能建组织完成电力物联网、绿色能源、绿色和智能建造、水务环保、综合管廊、高端装备等领域 24 项重大科技专项立项，“大型中低热值合成气燃气轮机相关辅助系统设计技术”等 9 项众筹科技项目策划，“±1,100 千伏特高压直流输电设计关键技术研究”等 8 项众筹科技项目验收。

In 2019, Energy China Group organized and completed 24 approvals of major technological projects in the fields of power Internet of Things, green energy, green and intelligent construction, water environment protection, utility tunnels and high-end equipment, the planning of 9 crowd-funding technological projects, including the “Design Technology for Auxiliary Systems Related to Large, Medium and Low Calorific Value Syngas Gas Turbines”, and the acceptance of 8 crowd-funding technological projects, including “Research on Key Technologies for the Design of the ± 1,100 kV UHV DC Transmission”.



“长江三峡枢纽工程”项目解决了一系列世界级水电施工技术难题，攻克了 10 项成套关键核心技术，获得国家科学技术进步奖特等奖

The Three Gorges Water Conservancy Project has solved a series of world-class technical problems in hydropower construction, overcome 10 key core technologies of package equipment, and won the special prize of National Scientific and Technological Progress Award.

1
国家科学技术奖 (项)
1 State Science and Technology Award

6
省部级科学技术奖 (项)
6 provincial and ministerial science and technology awards

151
行业级科学技术奖 (项)
151 industrial science and technology awards

1,424
专利授权 (项)
1,424 patents

101
软件著作权 (项)
101 software copyrights



案例
Case

规划设计集团 204 个项目获电力行业“四优”奖

204 Projects of China Energy Engineering Group Planning & Engineering Co., Ltd. win "Four Excellence" Award in the power industry

规划设计集团共 204 个项目获得 2019 年度电力行业“四优”奖。其中 38 个项目荣获优秀工程勘测一等奖，65 个项目荣获优秀工程设计一等奖。

“四优”奖代表了电力勘测设计行业工程创优的最高水平，旨在表彰开发与采用新技术、新工艺、新设备和新材料，形成的技术先进、经济和社会效益好的优秀成果。本次 204 个项目获奖，充分展现了规划设计集团聚焦科技创新、技术引领市场的核心竞争力。

A total of 204 projects of the China Energy Engineering Group Planning & Engineering Co., Ltd. won the 2019 "Four Excellence" Award in the power industry. Among them, 38 projects won the first prize for excellent engineering survey and 65 projects won the first prize for excellent engineering design.

The "Four Excellence" Award represents the highest level of engineering excellence in electric power survey and design. It aims to commend the excellent achievements with advanced technologies, good economic and social benefits by developing and adopting advanced and new technology, new equipment and materials. 204 projects won the award, fully demonstrating the core competitiveness of the company who focuses on S&T innovation and leads the market with technology.

推动成果转化
Achievement transformation

我们重视科技成果的转化和应用，着力挖掘科技成果应用价值，持续为行业进步和发展提供创新解决方案。2019 年共有 340 项新技术在 710 余项工程中转化应用，取得直接经济效益 17.08 亿元，助力市场开发新增合同额 130.38 亿元。

We attach great importance to the transformation and application of S&T achievements, strive to tap into the application value of those achievements, and continue to provide innovative solutions to the development of the industry. In 2019, a total of 340 new technologies were transformed and applied in more than 710 projects, achieving direct economic benefits of RMB 1.708 billion and helping market development to add RMB 13.038 billion of new contracts.

案例
Case

突破电子雷管应用瓶颈，推动爆破行业科技进步

Breaking through the bottleneck of electronic detonator application to promote S&T progress in the blasting industry

葛洲坝集团首创快速识别孔位的起爆系统，这项技术能使爆破现场联网效率提高约 50%，降低单耗约 5-10%，爆破诱发振动降低 44.2%，显著改善爆破破碎效果，提高铲挖效率，突破了电子雷管在复杂环境下的应用瓶颈，为电子雷管精准应用提供了保障。

本项新技术成果先后在多个工程推广应用，对爆破行业的科技进步起到了重大推动作用。

China Gezhouba Group pioneered an initiation system for rapid identification of hole position. This technology improves the networking efficiency of blasting sites by about 50%, reduces unit consumption by about 5-10%, and reduces blasting-induced vibration by 44.2%. It also significantly improves the blasting crushing effect, improves digging efficiency, breaks through the application bottleneck of electronic detonators in complex environments, and provides a guarantee for the accurate application of electronic detonators.

This new technological achievement has been popularized and applied in several projects successively, playing a significant role in promoting the S&T progress of the blasting industry.

案例
Case

尖端科技成果带动精品工程建设

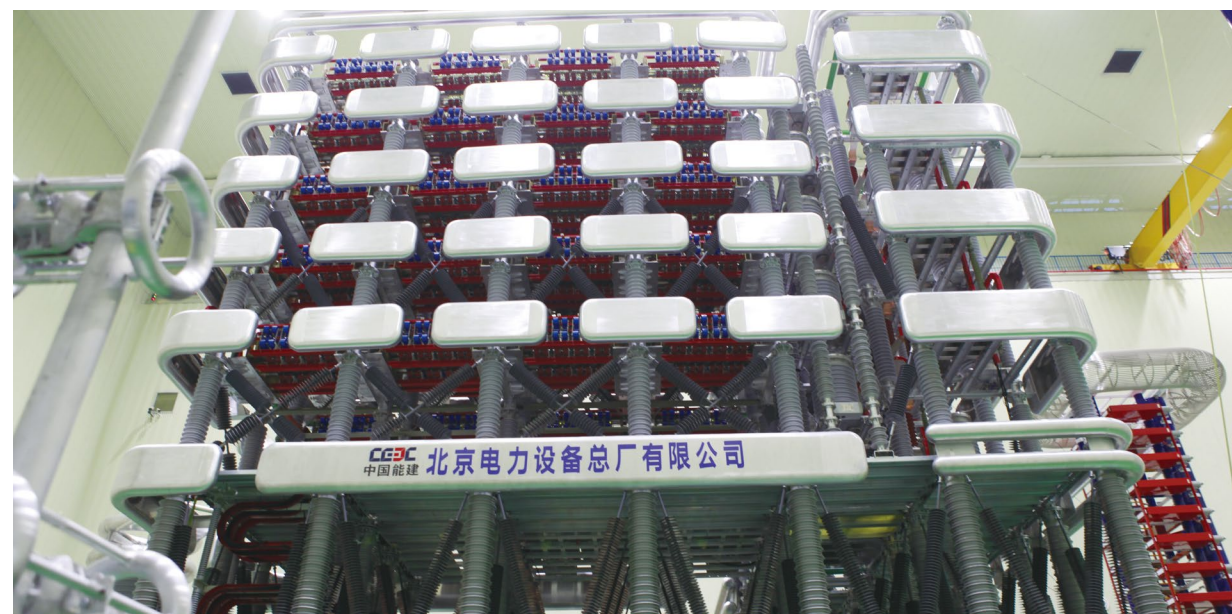
Leading the construction of excellent projects by advanced S&T achievements

4 月 15 日，由北京设备公司与清华大学合作研制的 535 千伏耦合负压式直流断路器通过型式试验，标志着世界首台 535 千伏耦合负压式直流断路器正式研制成功。这是超高压直流电网装备的重大技术突破，有助于提升多端柔性直流输电的灵活性和稳定性，为电力电子产品提供广阔的发展空间。

该断路器应用于世界首个柔性直流电网工程——张北柔性直流电网试验示范工程，这是世界上电压等级最高、输送容量最大的柔性直流工程。

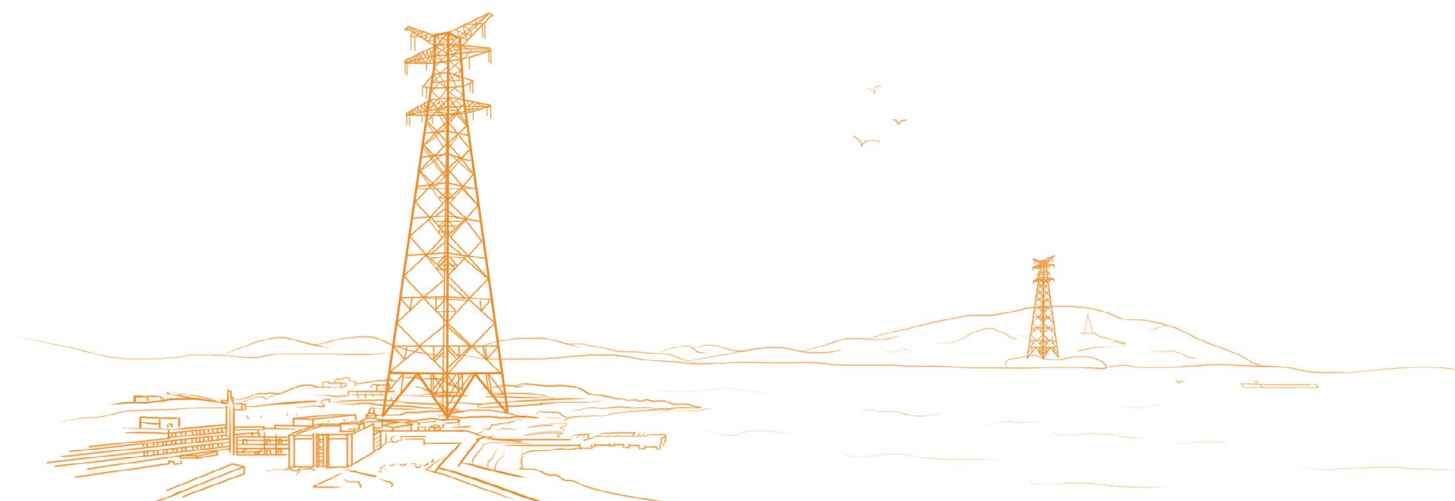
On April 15, the 535 kV coupled negative voltage DC circuit breaker jointly developed by Beijing Power Equipment Group Co., Ltd and Tsinghua University passed the type test, marking the formal development of the world's first circuit breaker of its kind. This is a major technological breakthrough in EHV DC network equipment, which helps improve the flexibility and stability of multi-terminal flexible DC transmission and provides broad development space for power electronic products.

The circuit breaker has been applied to Zhangbei Flexible DC Grid Test Demonstration Project, the world's first flexible DC grid project, which is the one with the highest voltage level and the largest transmission capacity in the world.



535 千伏耦合负压混合式直流断路器

535 kV coupled negative voltage hybrid DC circuit breaker



聚人心，同向偕行

Facilitating Employee Growth for Common Progress



中国能建秉承“以人为本”的人才理念，强化员工权益体系建设，重视职工安全与职业健康，创新员工培养机制，为员工提供适宜的成长通道，营造和谐友爱的工作环境，将员工发展融入中国能建发展中来，扎实培养新时代电力人才。

As a staunch advocate for the talent of “people-orientation”, Energy China Group builds a stronger system that safeguards employee rights and interests, and attaches great importance to employee safety and occupational health. We innovate in staff training mechanism, provide viable career channels, and create a harmonious and friendly working environment to integrate individual growth into corporate development, and cultivate competent talents in the new era.

核心管理绩效

Core management performance

122,560

在职职工 (人)
122,560 in-service employees

54.76

员工培训 (万人次)
547,600 participants in staff trainings

1,389

员工人均培训投入 (元)
RMB 1,389 invested in the training per employee

1,000

解决残疾人就业近 (人)
Employed nearly 1,000 disabled people

24.01

安全生产投入 (亿元)
RMB 2.401 billion invested in work safety

关键议题

Key topics

- 员工权益
Employees' Rights and Interests
- 健康安全
Health and Safety
- 成长发展
Growth and Development
- 员工幸福
Staff Happiness

主要行动策略

Major strategic actions

- 加强组织建设和民主管理，为员工足额缴纳五险一金，保障员工各项基本权益。
- 发布《员工职业发展通道建设指导意见》，为员工的职业生涯发展搭建平台。
- 制定《教育培训管理暂行办法》和《职工培训体系建设方案》，提高员工培训计划性、有效性和针对性。
- 通过“安全文化建设年”等活动提升安全生产意识，保护员工安全 and 健康。
- 组织丰富多彩的业余活动，帮助员工实现工作与生活平衡兼顾。

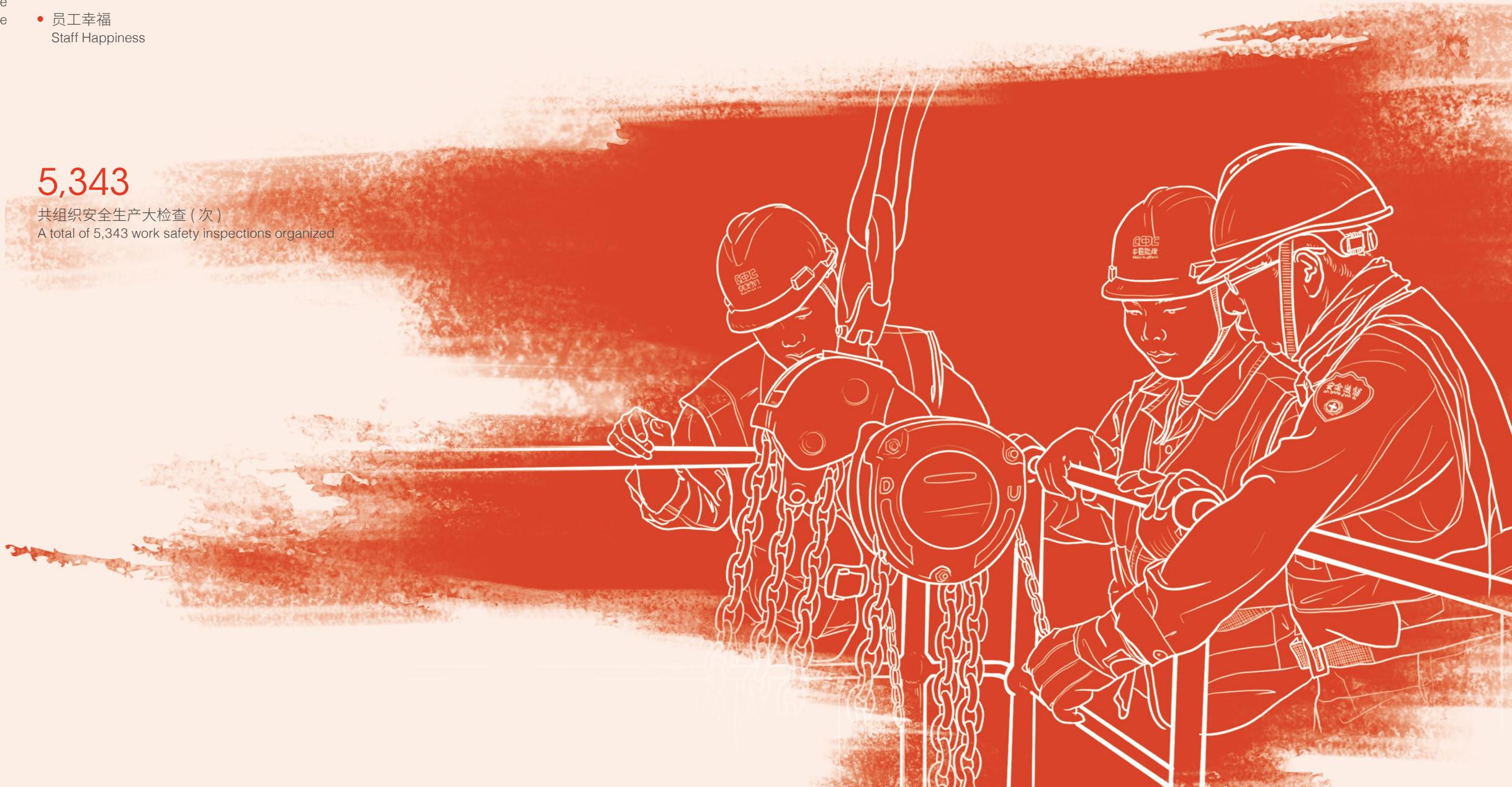
Improving employee organization and democratic management, and paying social insurances and one fund for employees in full to protect their basic rights and interests.

Issuing *Guidance on the Construction of Employee Career Development Channel* to build a platform for individual growth.

Formulating the *Interim Measures for the Management of Education and Training* and the *Program for the Construction of Employee Training System* to improve the planning, effectiveness and pertinence of staff training.

Protecting the safety and health of employees through “work safety year” and other related activities to enhance the awareness of safety.

Organizing diverse activities to help employees balance work and life.



提供基本权益保障

Protecting Employees' Basic Rights and Interests

中国能建严格遵守国家法律法规、公司规章制度，以及海外运营所在地劳动雇佣制度，坚持平等雇佣、同工同酬原则，保障员工薪酬福利和各项基本权益。

截至 2019 年底，中国能建员工总数 122,560 人，其中，男性员工 96,643 人，女性员工 25,917 人，男女员工比例约为 3.73:1，解决残疾人就业近 1,000 人，新增就业人数 4,381 人。少数民族员工占全部员工的 4.4%，当年接收毕业生中，少数民族员工占比约 5%。

中国能建积极推进民主管理规范化，不断完善以职工代表大会为基本形式的企业民主管理制度，切实维护员工权益，提高员工民主管理参与度，让广大员工共享企业发展成果，实现员工与企业和谐发展。

Energy China Group actively promotes standardized democratic management, and constantly improves the management system in the form of worker's congress to effectively protect the rights and interests of employees. We welcome their participation in corporate management with an aim to share with them the fruits of development, and build a harmonious employee-enterprise relationship.

Energy China Group strictly abides by national laws and regulations, corporate rules, and overseas employment policies. We adhere to the principle of equal employment and equal pay to safeguard the basic rights and interests such as remuneration and benefits of employees.

By the end of 2019, our employees totaled 122,560, including 96,643 male and 25,917 female workers, with a ratio of male to female employees of 3.73:1. We employed nearly 1,000 disabled people, and created 4,381 jobs. Ethnic minority employees accounted for 4.4% of all, and among graduates received that year, ethnic minority employees accounted for about 5%.



中国能源建设（集团）股份有限公司一届一次工会会员代表大会
The Third Session of the First Worker's Congress of Energy China

重视职业健康与安全

Safeguarding Occupational Health and Safety

中国能建认真贯彻“安全是技术、安全是管理、安全是文化、安全是责任”的基本理念，全面落实企业安全生产主体责任，大力弘扬“生命至上、安全发展”主旋律，使“珍爱生命、关注安全”成为全员思想自觉和行为自觉，推动形成维护员工职业健康与安全的工作合力和良好氛围。

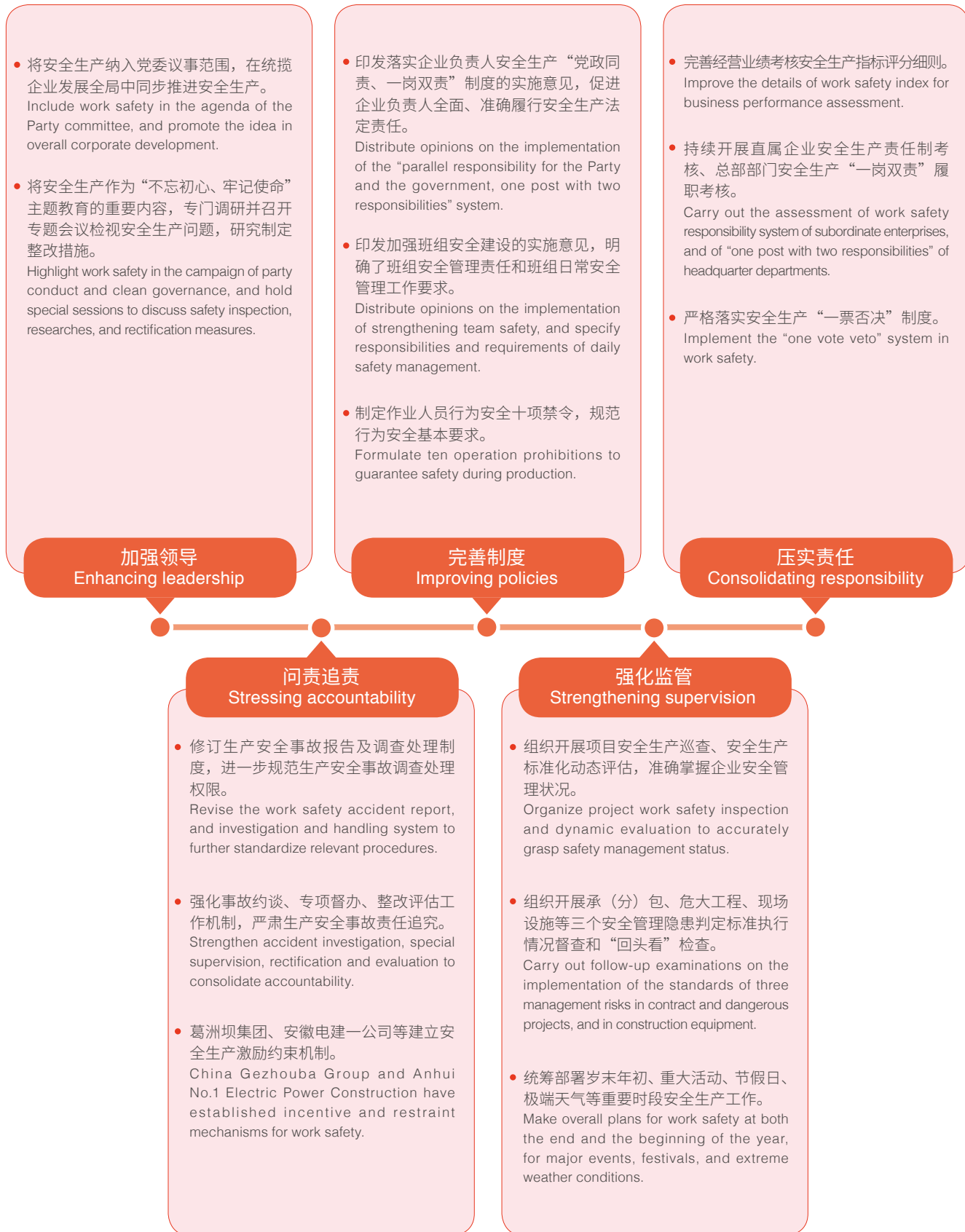
Energy China Group conscientiously consolidates the philosophy of “securing safety through technology, management, culture, and responsibility”. We comprehensively manage work safety, vigorously promote the awareness of “life first, safe development”, and engrain the concept of “love life, strengthen safety” into the minds of staff to guarantee both occupational health and work safety.

Energy China Group gives full play to the leading role of Party organizations in work safety, and upgrades the accountability mechanism to tighten control over safety in the workplace. In 2019, the Group invested RMB 2.401 billion in this regard, and no accident above general level has ever occurred in the past three years. Our work safety remained stable for a long period.

健全管理制度

Management system

中国能建充分发挥党组织对安全生产工作的领导作用，健全安全生产责任机制，推动安全监管和责任落实。2019 年，中国能建安全生产投入 24.01 亿元，连续三年没有发生较大及以上生产安全责任事故，安全生产保持长周期稳定局面。



加强能力建设 Capacity building

我们坚持“分层分类、按需施教”原则，以教育培训为抓手，创新形势、丰富内容、拓展载体，着力提升全员安全生产素质能力，夯实安全生产基础。

2019 年，中国能建开展各类安全生产培训，覆盖 425,000 人次。举办 2 期专职安全监管人员培训班和 1 期应急管理培训班，宣贯国家应急管理法规和公司安全生产管理制度。公司所属企业组织开展安全生产知识竞赛、志愿服务、建言献策、“一封安全家书”、安全谜语竞猜等形式多样的安全活动，营造了“关注安全、关爱生命”的浓厚氛围。

We adhere to “stratified, classified and on-demand teaching”, and take education and training as an effective means to improve the quality and capacity of all staff with innovative forms, diverse contents and more carriers, so as to lay a solid foundation for work safety.

In 2019, our trainings on work safety covered 425,000 participants. We held two training courses for full-time safety supervisors and one course for emergency management staff to publicize national emergency management regulations and our work safety management system. Our affiliated enterprises also organized various activities, such as knowledge competition, volunteer service, meetings to solicit suggestions, “a family letter on safety”, and riddle guessing contests to create a strong atmosphere of “paying attention to safety and caring for life”.

案例 Case

推进安全文化建设，营造安全生产氛围 Promoting safety culture to create a work safety atmosphere

我们在 2019 年组织开展了“安全文化建设年”活动，中国能建主要负责人带头撰写安全生产署名文章，号召和动员集团上下“防风险、除隐患、遏事故”。各企业负责人发表署名文章 119 篇，讲“安全生产公开课”80 次。征集安全文化作品 292 件，向国家能源局推荐“安全文化建设年”活动创新成果 10 篇（部），其中规划设计集团中南院“12350”安全管理、华东建投安徽电建二公司班组“同心”安全文化创新被国家能源局评为安全文化建设优秀创新成果。

In 2019, we held the “work safety year” event. The main leadership of Energy China Group and its subordinate enterprises took the lead in writing signed articles on work safety, calling on the whole group to “prevent risks, eliminate hidden dangers and curb accidents”. A total of 119 articles were published and 80 lectures on work safety were delivered. We collected 292 works and recommended 10 innovative achievements of “work safety year” to National Energy Administration. Among them, “12350” safety management of Central Southern China Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group and “Tongxin” safety culture innovation team of Anhui No.2 Electric Power Construction were rated as excellent innovation achievements of safety culture construction by the Administration.



云南院聚焦学习习近平总书记关于安全生产的重要论述
Yunnan Electric Power Engineering Co., Ltd. learns President Xi Jinping's important speech on work safety.



安徽电建一公司“我当一天安全员”活动
“My day as a safety supervisor” launched by Anhui No. 1 Electric Power Construction Co., Ltd.



广东火电安全体验馆 VR 体验设施
Guangdong Power Engineering Co., Ltd.'s VR safety facilities



山西电建“安全护航保增长 平安稳定促转型”安全知识竞赛活动
Safety knowledge contest held by Shanxi Electric Power Construction Co., Ltd.

治理风险隐患 Potential risks management

2019 年，我们深化安全生产风险管控和隐患排查治理，组织开展安全生产集中整治、有限空间作业安全专项治理、建设工程施工现场安全专项治理、危险化学品安全综合治理、电力设备安全专项治理等活动，全面排查治理生产安全事故隐患和违章违规行为，确保落实安全生产各项措施要求。

In 2019, we deepened risk control and hidden hazard examination, organized activities such as centralized treatments of work safety, safety in confined spaces, construction site safety, hazardous chemicals, and power equipment to identify and control the hidden dangers and regulations violations, and ensure up-to-standard operation.



中能装备组织开展安全生产风险分级管控和安全隐患排查治理专项行动，重点对生产系统、设备设施、作业环境、人员行为等方面风险隐患进行专项治理。
Energy China CEEEC launched special actions for tiered management and control of work safety, and investigation and treatment of hidden hazards, focusing on eliminating risks in production system, equipment and facilities, operation environment and operators' code of conduct.



天津电建组织开展违章治理专项活动，按照“发现一起、查处一起”铁腕整治安全生产违章违规现象。
Tianjin Electric Power Construction Co., Ltd. organized an iron-fist campaign to deal with disobedient behaviors in accordance with the principle of zero-tolerance toward work safety violations.

保护驻外员工

Protection of expatriate staff

我们密切关注境外员工生命财产安全，按照《境外中资企业机构和人员安全管理规定》，制定并严格实施《境外机构和人员安全管理办法》，对因公出国员工分级设置敏感国安全提醒，通过购买保险、健康体检、疫苗接种等多维度措施为驻外员工提供健康安全保障。

We pay close attention to the life and property safety of overseas employees, formulate and implement *safety management measures for overseas organizations and personnel* in accordance with the *Regulations on Safety Management of Overseas Organizations and Personnel*, set up hierarchical national security alerts for employees going abroad on business trips, and protect their health and safety through measures such as insurance, health examination and vaccination.

成就员工职业价值

Fulfilling Employees' Professional Value

我们以建设高素质人才队伍为核心，以员工能力建设为重点，积极构建培训体系，不断完善晋升制度，为每位员工成就职业理想助力赋能。

We focus on building high-quality talent teams, and the capacity of employees. We continue to upgrade the training system, and improve the promotion mechanisms to help each employee achieve his professional ideal.

拓宽职业通道

Career path expansion

中国能建发布了《员工职业发展通道建设指导意见》，着力为员工职业生涯发展搭建平台，满足各类人才成长需要。根据行业特点，结合现有人力资源结构，为员工设计经营管理、项目管理、工程技术、职业技能等多条发展路径，充分考虑员工特长和个人意愿，激发员工爱岗敬业的精神，为员工在合适的发展通道不断前进保驾护航。

Energy China Group released the *Guidance on the Construction of Employee Career Development Channels*, aiming to build a platform for their development which meets the needs of various talents. In light of the industrial characteristics and the existing human resource structure, we design multiple development paths for employees, including business management, project management, engineering technology, and professional skills. We fully consider the staff's specialty and personal will to encourage their dedication to work, and safeguard individual growth.

30

享受国务院津贴专家 (人)
30 State Council
special allowance experts

2

全国核工业工程勘察设计大师 (人)
2 national nuclear engineering survey
and design masters

2

国家有突出贡献专家 (人)
2 experts with outstanding
contributions to China

6

全国工程勘察设计大师 (人)
6 national engineering survey
and design masters

5

国家百千万人才工程专家 (人)
5 experts included in the National
Hundred, Thousand and Ten Thousand
Talent Project

24

全国技术能手 (人)
24 National
Skilled Technicians

案例
Case

切磋焊接技艺，弘扬工匠精神

Competing welding skills to promote craftsmanship spirit

2019年6月，浙江火电举办焊工技能竞赛，通过理论和技能两方面的竞技，积极挖掘、培养高技能焊接人才，为员工切磋技艺、交流技术、提升技能、展示风采搭建了平台，推进培养焊接技能人才，大力弘扬工匠精神。

In June 2019, Zhejiang Thermal Power Construction Company held a welding skill competition to identify high-end talents well versed in both theory and practical skills. It built a platform for employees to showcase, exchange and improve their respective skills, and promoted the cultivation of welding talents and the spirit of craftsmanship.

案例
Case

“导师带徒”启航计划，注入成长加速度

Accelerating individual development through the “apprentice plan”

安徽电建二公司制定“导师带徒”启航计划，为来自全国六十多所高校的119名大学毕业生配以专业过硬、技术精湛、经验丰富的老员工作为导师，系统传授企业文化、员工职业发展规划、安全知识、工程技术管理、质量控制与管理、法律常识等方面的知识和经验，以“传、帮、带”加快新员工的成长步伐。

Anhui No.2 Electric Power Construction Co., Ltd. has put forth the “apprentice plan” by matching 119 college graduates from some 60 universities in China with veteran employees as mentors to pass on experience in enterprise culture, career development planning, safety knowledge, engineering technology management, quality control and management, and general legal know-how in a bid to fuel the growth of new employees.



开展教育培训

Education and training

我们持续推进《教育培训管理暂行办法》和《职工培训体系建设方案》实施应用，根据中高层管理人员、一般管理人员和专业技术人员、技能操作人员、新上岗人员等各级员工的岗位和个人发展需求，设计有特色、有效果、有针对性的培训计划、培训课程和实施流程。2019年，中国能建继续加大教育培训投入，完成54.76万人次培训，员工人均培训投入1,389元。

We continue to implement the *Interim Measures for the Management of Education and Training* and the *Plan on Employee Training System Construction*. We propose targeted trainings for middle and senior management, general management, professional and technical personnel, skilled operators and new employees. In 2019, we increased investment in education and training to RMB 1,389 per capita, benefiting 547,600 participants.

案例
Case

以赛代练，加强青年培训师队伍建设

Training through competition to strengthen the capability of young trainers

8月13-16日，中国能建积极参与中国电力企业联合会举办的第二届全国电力行业青年培训师教学技能竞赛，选派职工培训中心和广东院三支队伍参赛，以赛代练，促进青年培训师岗位成才渠道畅通，促进人才培养工作质效提升，促进一流培训师队伍建设。最终获得电建类竞赛组团体一等奖、优秀组织奖，个人奖一等奖1项、二等奖1项、三等奖3项的好成绩。

We selected three teams from the Staff Training Center and Guangdong Electric Power Design Institute to participate in the Second National Power Industry Young Trainer Teaching Skills Competition held by China Electricity Council from August 13 to 16. Through the competition, we aim to smooth the career channels for young trainers, improve the quality and efficiency of talent training, and promote the team building of first-class trainers. Finally, our delegation harvested the First Prize for Group Participants, Outstanding Organization Award, one First Prize for Individual Participants, one Second Prize and three Third Prizes.



营造和谐工作氛围

Creating a Harmonious Work Environment

中国能建关注员工工作感受，支持多种多样的兴趣小组，组织丰富多彩的员工活动，帮扶困难员工，关爱离退休员工，努力为员工打造舒心、温暖的工作氛围和生活环境。

We emphasize employees' feedbacks, and strive to build a comfortable, and loving workplace and living environment for employees through diversified clubs and activities, support employees in need, and care for the retirees.

和谐工作生活

Harmonious work and life

中国能建关注员工的身心健康和舒适工作，举办各类健康讲座、心理咨询等活动，帮助员工以饱满的热情、积极的态度投入到工作生活之中，保持工作生活平衡和谐。我们为孕期、哺乳期的女性员工提供特殊保护和便捷服务，积极维护女性员工的合法权益和特殊利益。

We pay attention to the physical and mental health as well as comfortable work environment of employees, and hold various health lectures and psychological counseling to help employees adopt a positive attitude in both work and life, and effectively balance the two. We also offer special services for pregnant and lactating employees to safeguard their legitimate rights and interests.

案例
Case

走进“心灵港湾”，平衡工作生活

Balancing work and life

湖南院工会启动“心灵港湾计划”，与知名心理健康专业服务机构联手建立员工心理健康管理平台，培养60人的专兼职专家团队，通过心理讲座、心理体检、心理咨询、心理课程、心理沙龙等途径，实施系列员工心理援助项目（EAP），提高员工的心理综合素养，帮助员工尤其是长期出差一线员工提高心理知识认知水平，提升心理综合素养。

The Labor Union of Hunan Electric Power Design Institute launched the “harbor of the mind” program. By forging a mental health management platform for employees along with well-known professional institutions, we trained a team of 60 full-time and part-time experts to raise the cognition of psychological knowledge of front-line workers through a series of employee assistance programs (EAP) such as lectures, examinations, consultations, courses, and salons.



案例 Case

保护女工权益，设立“爱心小屋”

The "house of love" shelters the rights and interests of female workers

南方建投广电工程局工会女职工委员创建“爱心妈妈小屋”，制定《“爱心妈妈小屋”使用管理规定》，规范“爱心妈妈小屋”的管理使用，真正为怀孕期和哺乳期的员工提供一个私密、干净、舒适、安全的空间场所。

The female members of the Labor Union of Guangdong Electric Power Engineering Bureau initiated the "house of love", and laid out regulations on its use and management to provide a private, clean, comfortable and safe space for pregnant and lactating employees.



丰富文化活动

Diverse cultural activities

我们积极组织各类文体活动，为员工搭建展示风采的平台，增进员工之间的沟通交流，缓解员工工作压力，引导员工追求美好生活，提高员工的归属感和凝聚力。

We actively organize cultural and sports activities to encourage employees to demonstrate themselves, communicate with each other, relieve their pressure, guide them to pursue a better life, and improve their sense of belonging and cohesion.



东电一公司举办庆祝中华人民共和国成立 70 周年暨新入职大学生培训结业文艺演出

Celebration of the 70th Anniversary of the Founding of the People's Republic of China and Completion of Training for New Employees of Northeast No.1 Electric Power Construction Co., Ltd.



安徽电建一公司“四季恋歌 春暖花开”单身青年联谊活动
Fellowship activities of Anhui No. 1 Electric Power Construction Co., Ltd.



湖南火电 2019 “能力杯” 职工篮球赛
2019 Staff Basketball Match of Hunan Power Construction Co., Ltd.



天津电建 2019 羽毛球团体大赛
2019 Group Badminton Competition of Tianjin Electric Power Construction Co., Ltd.

关心关爱员工

Employee care

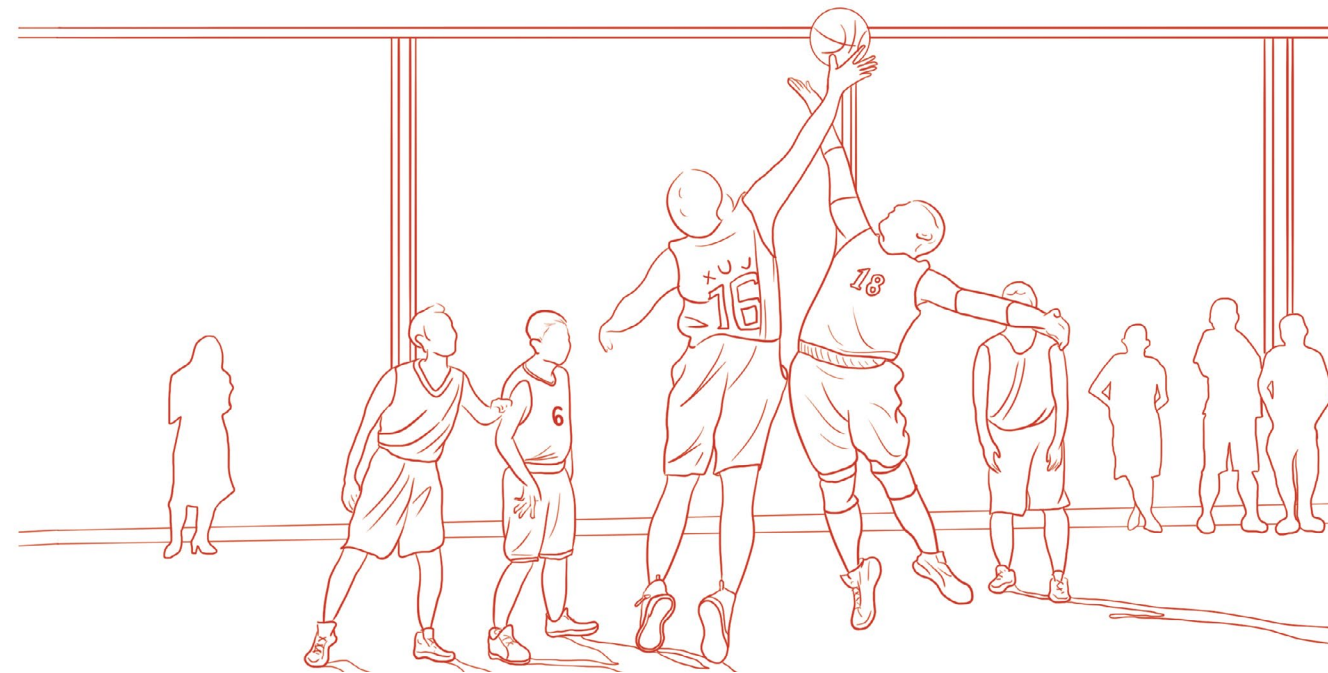
我们关注困难员工和离退休员工生活情况，对困难员工及时提供援助和帮扶，为离退休员工送去温暖关怀。2019 年，中国能建“金秋助学”、困难职工帮扶、离退休员工慰问等活动投入约 4,150.45 万元。

We care for the living conditions of employees in need and retirees, and provide them with timely support. In 2019, Energy China Group invested around RMB 41.5045 million in student grants, assistance for needy workers, and retired employees.



中国能建党委书记、董事长汪建平（左一）一行慰问北京电建退休老党员

Wang Jianping (first from the left), Party Secretary and Chairman of Energy China Group visits retired Party member of Beijing Electric Power Corporation.



敬自然，守护环境

Respecting Nature and Protecting Environment



良好生态蕴含着无穷的价值，能够源源不断创造综合效益，实现经济社会可持续发展。中国能建坚持绿色、循环、低碳理念，坚守环境保护发展红线，持续推动节能减排技术研发，扩展清洁能源和生态治理业务布局，加快绿色转型升级，助力生态环境改善，共建美丽中国。

Good ecology contains endless value, which can continuously create comprehensive benefits and realize sustainable economic and social development. Energy China Group adheres to the green, recycling and low carbon concepts, and the red line of environmental protection for development. We continuously promote the R&D of energy-saving and emission-reduction technologies, expand the business layout of clean energy and ecological management, and accelerate green transformation and upgrading to help improve the ecological environment and build a beautiful China.

主要行动策略

Major strategic actions

- 严格遵守国家生态环保法律法规和行业规范，修编完善企业相关制度，加强环境管理，提升环保意识。
- 明确环保责任主体，落实环保实践要求，加大节能减排研发投入，在生产和运营中积极开展节能减排工作。
- 深入推进有害气体及污染物减排工作，应用先进环保技术减少施工过程对生态环境的负面影响。
- 发展清洁能源、环保产业、绿色投资等产业布局，积极推进绿色转型升级。

关键议题

Key topics

- 环境管理
Environmental Management
- 节能减排
Energy Conservation and Emission Reduction
- 绿色工程
Green Projects
- 绿色转型
Green Transformation

Strictly abiding by national ecological and environmental protection laws and regulations and industry norms, revising and improving relevant enterprise systems, strengthening environmental management, and enhancing environmental awareness.

Clarifying the main body of environmental protection responsibility, implementing the requirements of environmental protection practice, increasing investment in R&D on energy conservation and emission reduction, and actively carrying out energy conservation and emission reduction in production and operation.

Further promoting the reduction of harmful gas and pollutant emissions, and applying advanced environmental protection technologies to reduce the negative impact of construction on the ecological environment.

Developing the industrial layout in the fields of clean energy, environmental protection and green investment, and actively promoting green transformation and upgrading.

核心管理绩效

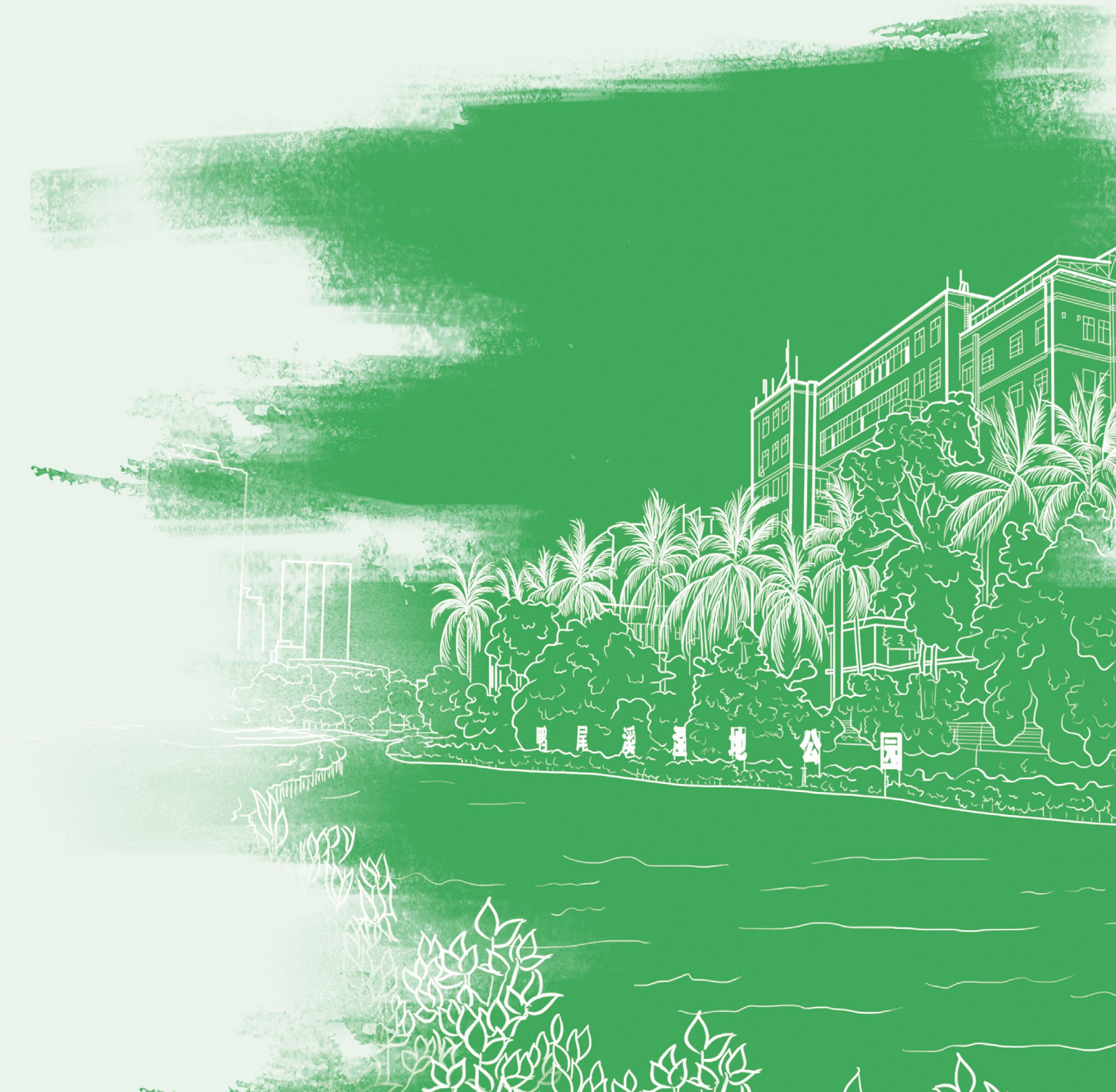
Core management performance

3

修编环境管理制度 (项)
Revised 3 environmental management systems

7.76

全年环保投资总额 (亿元)
Annal investment in environmental treatment: RMB 776 million



完善环境管理机制

Improving Environmental Management Mechanism

中国能建将完善管理机制作为环境保护工作的基石，着力优化管理体系、加强监督检查、细化实践考评，为环境保护理念提升和工作落实奠定扎实基础。

完善环境管理

Environmental management

中国能建建立环境保护工作领导小组，统筹谋划环境保护工作。各所属企业落实生态环境保护责任，层层签订责任书，分类分级明确环保责任目标和要求，形成了齐抓共管的责任链条。

2019年，中国能建完成《环保管理规定》《环保工作考核与奖惩办法》《环境事件报告与调查处理办法》3项制度修编工作，推行分类分级管理模式，进一步明晰了各级企业的环保责任。

围绕世界环境日、节能宣传周、低碳日等主题，我们广泛开展各类环保理念宣传和能力建设活动，通过丰富多彩的宣传教育形式，提升员工环保意识，传递绿色发展理念。



南方建投世界环境日活动启动仪式

Launching Ceremony of World Environment Day by China Energy Engineering Group Southern Construction & Investment Co., Ltd.

Energy China Group takes improvement of the management mechanism as the cornerstone of environmental protection. We strive to optimize the management system, strengthen supervision and inspection, and refine practical evaluation to lay a solid foundation for the promotion of environmental protection concepts and work implementation.

Energy China Group has set up a leading group for environmental protection to plan environmental work as a whole. All affiliated enterprises shoulder the responsibility, sign letters of responsibility, and define the objectives and requirements of environmental protection by classification and by levels, forming a responsibility chain of joint management.

In 2019, Energy China Group completed the revision of the *Regulations on Environmental Protection Management*, the *Measures for Assessment, Rewards and Punishments of Environmental Protection* and the *Measures for Reporting, Investigation and Handling of Environmental Incidents*, implemented classified and hierarchical management mode, and further clarified the environmental protection responsibilities at all levels.

Around the themes of World Environment Day, Energy Conservation Publicity Week and Low Carbon Day, we carry out a wide range of publicity and capacity-building activities on environmental protection. To promote employees' awareness of environmental protection and pass on the concept of green development, we always conduct various forms of publicity and education.



广东火电节能环保倡议宣传栏

Energy Saving and Environmental Protection Initiative Publicity Column of Guangdong Power Engineering Co., Ltd.

加强环境监察

Environmental monitoring

我们按照项目类别提出差异化的环保管控要点，强化对投资建设项目、工业企业等重点领域的环保监管。

We have put forward differentiated environmental protection control points according to the project categories, and strengthened supervision in key areas such as investment and construction projects and industrial enterprises.



助力污染防治攻坚战

Pushing Pollution Prevention and Control

中国能建贯彻落实国家坚决打赢打好污染防治攻坚战的要求，持续加大节能减排工作力度，明确环保责任，落实环保实践，共同为“蓝天保卫战”贡献力量。

Energy China Group implements the requirements of the state to firmly win the battle of pollution prevention and control. We continuously enhance energy conservation and emission reduction, clarify environmental protection responsibilities, implement environmental protection practice, and jointly contribute to the "Blue Sky Protection Campaign".

促进节能环保

Energy conservation and environmental protection

2019年，我们继续完善并贯彻落实《环保管理规定》等一系列节能环保管理制度，从管理、考核、资金与合规等层面全方位进行节能减排监督管理。以保护生态环境为己任，加强重大建设活动的环境地质影响评价，重视节约能效、减少排放，并不断优化废弃物处理方式，形成低投入、低消耗、低排放和高效率的集约型发展方式。

In 2019, we continued to improve and implement a series of energy conservation and environmental protection management systems such as the *Rules on the Management of Environmental Protection*, *Energy Conservation and Emission Reduction*, and implemented energy conservation and emission reduction management from the perspective of management, assessment, capital and compliance. To protect the ecological environment, we strengthened the environmental geological impact assessment of major construction activities, attached importance to saving energy and reducing emissions, and continuously optimized waste treatment methods to form an intensive development mode with a low amount of input, consumption and emissions and high efficiency.

案例 Case

改进设备设施，减少车间粉尘

Improving equipment and facilities to reduce workshop dust

华东装备公司为打磨房配置了除尘设备，生产车间配置了强排风机和屋脊通风器、母线车间焊接集烟室、焊接烟尘净化装置等设备设施，保证烟气粉尘值全部在标准范围内。第三季度新增 VOCs 厂房除尘器，对切割机及加热设备进行物理隔离，有效减少了室内车间粉尘排放，减少环境污染，保障员工健康。

East China Electric Power Equipment Company has equipped dust removers for the polishing room, and provided facilities such as strong exhaust fans and roof ventilators for the production workshop, welding smoke collection room in the bus workshop, welding smoke purification device, etc. to ensure the amount of smoke dust is all within the standard range. In the third quarter, VOCs factory dust collectors were added to physically isolate cutting machines and heating equipment, effectively reducing dust emissions from indoor workshops, decreasing environmental pollution and ensuring the health of employees.

加大绿色创新 Green innovation

中国能建努力走在技术前沿，以传统业务优化升级手段，深耕节能减排、绿色能源、智慧能源等领域创新研发，搭建技术转化平台，参与行业标准制定，推动环保科学技术发展和应用。

Energy China Group strives to be at the forefront of technology by means of optimization and upgrading of traditional businesses. We deepen innovative R&D in the fields of energy conservation and emission reduction, green energy, smart energy, etc., build a technology transformation platform, and participate in the formulation of industry standards to promote the development and application of environmental protection science and technology.

“特大型装配式矩形渡槽绿色施工关键技术研究与应用”成果

Achievements in “research and application of key technologies for green construction of super-large prefabricated rectangular aqueduct”

中国安装协会科技进步奖一等奖

First Prize of Science and Technology Progress Award of China Installation Association

“城市重污染水体生境改善与生态修复关键技术与装备”成果

Achievements in “key technologies and equipment for habitat improvement and ecological restoration of heavily-polluted water in urban areas”

华夏建设科学技术奖一等奖

First Prize of Huaxia Construction Science and Technology Award

“重金属污染土壤靶向修复共性关键技术开发与应用”成果

Achievements in “development and application of common key technologies for targeted remediation of heavy metal-contaminated soil”

中国环境保护产业协会科技进步奖一等奖

First Prize of Science and Technology Progress Award of China Association of Environmental Protection Industry



案例 Case

建设碳捕集技术测试平台，助力应对气候变化

Building a carbon capture technology test platform to cope with climate change

5月15日，广东院总承包建设的广东碳捕集测试平台项目建成投产，每年可捕集二氧化碳约2万吨。这标志着碳捕集技术研究发展步入新征程，对推进我国二氧化碳减排和应对气候变化具有里程碑意义。

广东碳捕集测试平台是亚洲首个多技术开放国际碳捕集技术测试平台，也是世界首个基于火电厂超超临界机组的碳捕集测试平台，与美国国家碳捕集技术测试中心、挪威蒙斯塔技术中心并列世界三大碳捕集技术试验基地。

The platform is the first open international carbon capture test platform with multi-technology in Asia and the world's first carbon capture test platform based on the ultra-supercritical units of thermal power plants. It is listed as one of the world's three largest carbon capture technology test bases together with the National Carbon Capture Center in the United States and the Technology Centre Mongstad in Norway.

On May 15, the Guangdong Carbon Capture Test Platform Project contracted by Guangdong Electric Power Design Institute Co., Ltd., was completed and put into operation, and can capture about 20,000 tons of carbon dioxide every year. This marks a new journey for the R&D of carbon capture technology and is of milestone significance in promoting China's carbon dioxide emission reduction and coping with climate change.



打造绿色工程项目

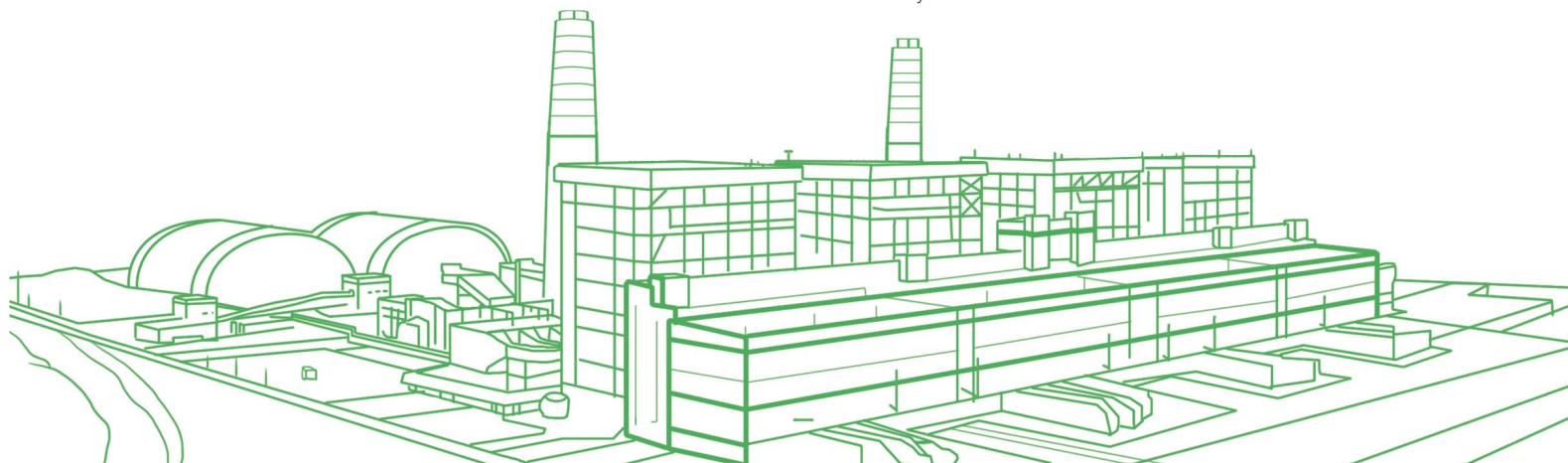
Creating Green Engineering Projects

中国能建践行设计、施工、运营全流程绿色理念，优化施工方案，进行技术工艺改造，加强环保配套设施建设，打造典范绿色工程。在降低能源消耗，减少污染排放，治理粉尘、噪声、废渣、废水等方面取得显著成效。

Energy China Group practices the green concept in the whole process of design, construction and operation. We optimize the construction scheme, carry out technological process transformation, and strengthen environmental protection supporting facilities to create model green projects. Remarkable results have been achieved in reducing energy consumption and pollution emissions and in controlling dust, noise, waste residue and wastewater.

2019年，葛洲坝集团荣获我国环境保护领域最高的社会性奖励——“中华环境奖”优秀奖，向社会亮出绿色名片。

In 2019, China Gezhouba Group won the excellent award of China Environment Award, the highest grade of social reward in China's environmental protection field, showing a green business card to the society.



影响评估

Impact Assessment

- 设计充分考虑环境保护因素，依法开展环境影响评价工作。
We are fully considered in construction rules and scheme design, and environmental impact assessment is carried out according to law.

施工管理

Construction Management

- 合理规划临时施工道路，减少道路破坏，合理设计排水通道，保护生态敏感区；
The planning of temporary construction roads is reasonable. It reduces road damage with well-designed drainage channel to protect the ecologically sensitive areas;
- 保护自然栖息地，严禁滥砍乱伐，滥捕乱杀，保持原始地形地貌；
Efforts are made to conserve natural habitats, forbid deforestation and indiscriminate killing, and maintain the original topography;
- 已完工工程临时道路、砂石料场等及时复塑，并采取移植草皮、播种草籽等人工增殖举措。
Temporary roads and sand and gravel yards of completed projects have been re-molded in time, and artificial multiplication measures such as transplanting turf and sowing grass seeds have been taken.

培训宣贯

Training, Publicity and Implementation

- 定期开展面向员工的环保法律法规教育培训；围绕大气污染防治、污染物减排等重点、热点话题开展有特色、有针对性、有效果的专题活动，创造良好环保文化氛围。
Employees have received regular training on environmental protection laws and regulations; and thematic activities about key and hot topics (e.g. air pollution prevention and emission reduction) have been organized to form a good atmosphere of environmental protection.

案例
Case

“超低排放”，追求一流环保绩效

Pursuing first-class environmental performance through ultra-low emission

大唐国际雷州电厂新建工程1号机组项目投资13.7亿元，用于建设环境保护设施和落实生态环境保护措施。

A total of RMB 1.37 billion has been invested in the Unit 1 project of Leizhou Power Plant owned by Datang International Power Generation Co., Ltd. for the construction of environmental protection facilities and the implementation of ecological environment protection measures.

项目配套建设了国际领先的烟气治理设施，污染物排放指标满足“超低排放”要求。同步建设了全封闭贮煤场、燃煤运输线路，采用环保性能好的螺旋式卸煤机，极大地降低了煤粉产生的扬尘污染。应用工业废水、生活污水、含煤废水等处理系统，实现废污水近零排放，环保指标达到国内一流水平。

World-class flue gas treatment facilities were built in the project, and the pollutant emission index meets the requirements of “ultra-low emission”. At the same time, a fully enclosed coal storage yard and coal transportation lines have been built, and spiral coal unloaders with good environmental protection performance have been adopted, thus greatly reducing dust pollution caused by pulverized coal. Industrial wastewater, domestic sewage, coal-containing wastewater and other treatment systems have been applied to realize near-zero discharge of wastewater and the environmental protection indexes reach the first-class level in China.

案例
Case

践行水土保持，造就美丽生态

Practicing soil and water conservation to create better ecology

广东火电在500千伏岐山输变电工程施工过程中大力推进新技术、新材料、新工艺应用，通过减少挖填数量、避免扰动破坏、减轻破坏程度、增加生态修复投入等措施，建设绿色生态输变电工程，各项指标全部达到或超过水土保持方案设定的目标值。该项目获得2019年度生产建设国家水土保持生态文明工程奖，是唯一获得此奖项的输变电工程。

Guangdong Power Engineering Co., Ltd. vigorously promoted the application of new technologies, materials and techniques during the construction of 500 kV Qishan Power Transmission and Transformation Project. Through measures such as reducing the amount of excavation and filling, avoiding disturbance, reducing the degree of damage and increasing the investment in ecological restoration, the company has built a green ecological power transmission and transformation project. All indexes have reached or exceeded the targets set by the water and soil conservation scheme. The project won the 2019 Soil and Water Conservation Ecological Progress Project Award for State Production and Construction, and is the only power transmission and transformation project to win this award.



深入推进绿色转型

Deepening Green Transformation

中国能建坚持落实绿色发展理念，拓展清洁能源业务，投资绿色环保产业，加速推进绿色转型升级，助力生态文明建设。2019年，我们大力开展固废综合利用、可再生资源发电、生态修复、污水处理等节能环保产业投资和环境治理PPP项目投资，环保投资总额达7.76亿元。

Energy China Group adheres to the concept of green development. By expanding clean energy business, and investing in environmental protection industry, we have accelerated green transformation and upgrading to facilitate the ecological progress. In 2019, we vigorously carried out investment in energy-saving and environmental protection industries such as comprehensive utilization of solid waste, power generation from renewable resources, ecological restoration and wastewater treatment, and PPP projects for environmental treatment with a total investment of RMB 776 million.



拓展清洁能源 Clean energy

中国能建积极布局发展风电、光电、生物质发电等清洁能源工程，构建低耗高效能源体系，拥有海上风电、太阳能光热发电等一批关键核心技术，为构建清洁低碳、高效安全的现代能源体系作出应有贡献。2019 年新能源产业投资总额达 17.78 亿元，重点推进多项新能源项目。

锡林浩特 475 兆瓦风电工程项目规划安装 238 台容量 2 兆瓦的风力发电机组。作为锡盟风电基地特高压配套新能源基地项目，该工程对建成锡盟千万千瓦现代化大型风电基地、推动能源产业新旧动能转换具有重要意义。

For Xilinhot 475 MW wind power project, the plan is to install 238 sets of 2 MW wind-driven generators. As an UHV supporting new energy base project for Ximeng Wind Power Base, the project is of great significance to build a large-scale wind power base with an installed capacity of over 10 GW in Ximeng and to promote the conversion of new and old kinetic energy.

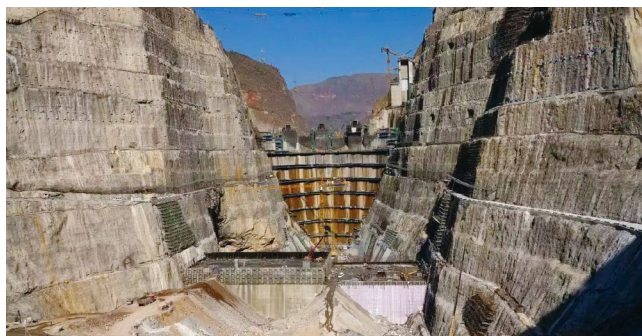
山西长治 500 兆瓦光伏发电项目是国家首批 3 个光伏发电技术领跑基地之一，是国家促进光伏发电技术进步、产业升级、市场应用和成本下降的重要示范工程，也是山西省规模最大的光伏发电项目。

Changzhi 500 MW Photovoltaic Power Generation Project in Shanxi is one among the first batch of three leading bases for photovoltaic power generation technology in China. It is an important demonstration project to promote technology progress, industrial upgrading, market application and cost reduction, and is also the largest photovoltaic power generation project in Shanxi Province.

乌东德水电站总装机容量 10,200 兆瓦，是中国继三峡、白鹤滩、溪洛渡之后第四座千万千瓦级巨型水电站，是“西电东送”的骨干电源和促进国家能源结构调整的重大工程。

With a total installed capacity of 10.2 GW, Wudongde Hydropower Plant is China's fourth 10 GW hydropower station after the Three Gorges, Baihetan and Xiluodu hydroelectric power plants. It is the key power source for the "West-to-East Power Transmission Project" and a major project to promote the adjustment of the country's energy structure.

Energy China Group actively develops clean energy projects such as wind power, photoelectric and biomass power generation to build a low-consumption and high-efficiency energy system. The Group has a number of key & core technologies such as offshore wind power and concentrated solar power generation, and makes due contributions to the construction of a clean, low-carbon, efficient and safe modern energy system. In 2019, the total investment in the new energy industry reached 1.778 billion yuan, with the focus on promoting a number of new energy projects.



发展环保业务 Environmental protection business

我们积极打造集科技研发和控股管理为一体的全产业链高科技环保领军企业、标杆企业，布局水环境治理、土壤修复、垃圾处理等环保业务，保护绿水青山，贡献和谐生态。

- 海水治理项目：葛洲坝集团对海口鸭尾溪湿地生态系统 11 条水体综合治理过程中，不仅通过控源截污、河道清淤、生态修复、活水引水、生态护岸等一系列措施使水体质量达到 IV 级标准，还启动生态系统建设工程，营造出立体、完善的生态系统和人与自然和谐共处的环境，为海南书写了生态文明建设的新篇章。

Haikou Water Management Project: In the process of comprehensive management of 11 water bodies in Haikou Yaweixi wetland ecosystem, China Gezhouba Group not only made the water quality reach the Grade IV standard through a series of measures such as source control and wastewater interception, river dredging, ecological restoration, running water diversion and ecological bank protection, but also started the ecosystem construction to create a three-dimensional, perfect ecosystem and a harmonious environment for coexistence between man and nature, thus writing a new chapter of ecological progress for Hainan.

- 深圳市东部环保电厂：该项目采用全球最先进的垃圾焚烧和发电技术，建设 6 条 850 吨 / 日的垃圾焚烧处理生产线，生活垃圾处理能力达 5,000 吨 / 日，年发电量约 12 亿千瓦时，建成后将成为单厂规模全国最大、标准最高的垃圾焚烧发电厂。

Shenzhen East Waste-to-Energy Plant: The project adopted the world's most advanced waste incineration and power generation technology. Six 850-ton/day waste incineration production lines are being built, with a domestic waste treatment capacity of 5,000 tons/day and an annual power generation of about 1.2 GWh. Upon completion, the project will become the largest waste incineration power plant in China with the highest standard.

法电（灵宝）生物质热电联产工程是国家清洁能源供热政策重点支持项目，建成后可消纳农林剩余物约 30 万吨，发电量 2.1 亿千瓦时，为 25,000 余户居民提供清洁电力和暖气。

EDF (Lingbao) Biomass Cogeneration Project is a key support project of the national clean energy heating policy. Upon completion, it can absorb about 300,000 tons of agricultural and forestry residues, generate 210 GWh of electricity, and provide clean electricity and heating for more than 25,000 households.

We are actively building a hi-tech environmental protection leading and model enterprise in the whole industrial chain that integrates S&T research and development and holding management, and developing environmental protection businesses such as water environment management, soil remediation and garbage disposal to protect the green hills and clear waters and contribute to a harmonious ecology.

- 雄安新区工业纳污坑塘整治工程：该项目为雄安新区首个土壤修复示范项目，中国能建充分发挥在土壤治理方面的经验技术优势，精准确定污染土壤总方量与开挖范围，使治理方案更具有针对性，直击土壤污染治理痛点。

Xiongan New Area Industrial Wastewater Receiving Pond Renovation Project: It is the first soil remediation demonstration project in Xiongan New Area. Energy China Group gives full play to its experience and technical advantages in soil remediation, accurately determines the total amount of contaminated soil and the excavation scope, so as to make the management plan more targeted and directly solved the pain points of soil pollution remediation.



促合作，多方共赢

Promoting Win-win Cooperation



“独行快，众行远”。中国能建秉承和平合作、开放包容、互利共赢的理念，致力于构建和谐伙伴关系，为合作伙伴和中国能建自身拓展更多合作空间，与政府、行业、供应链伙伴、国际合作伙伴共商、共建、共享繁荣美好生活。

An old African proverb says, “If you want to go fast, go alone; if you want to go far, go together”. Adhering to the concepts of peaceful cooperation, openness and inclusiveness, and mutual benefit, Energy China Group is committed to building harmonious partnerships, expanding more cooperation space for partners and itself, and sharing a prosperous life with the governments, industry, supply chains and international partners.

主要行动策略

Major strategic actions

- 为政府决策提供支持，参与国家和各省“十四五”能源规划及重点课题研究，开展国家标准宣贯培训，承接政府重大项目评估，协助国家能源监管服务。

Providing support for government decision-making, participating in the national and provincial energy planning and research on key topics during “the 14th Five-Year Plan” (2021—2025), carrying out training on the promotion and implementation of national standards, undertaking the evaluation of major government projects, and assisting the national energy regulatory services.

- 推动行业高质量发展，参与行业标准制定，编制行业发展报告，促进行业沟通交流。

Promoting the high-quality development of the industry, participating in the formulation of industry standards, preparing development reports, and promoting communication and exchange.

- 深化国际合作，实施能源建设“走出去”战略，多渠道促进国际交流，高质量推进国际合作项目。

Deepening international cooperation, implementing the “going global” strategy for energy construction, promoting international exchanges through multiple channels, and promoting international cooperation with high quality.

关键议题

Key topics

- 服务政府
Serving the Government
- 行业发展
Industry Development
- 伙伴共赢
Win-win Partnership
- 国际合作
International Cooperation

核心管理绩效

Core management performance

发布国际标准 **1** 项、国家标准 **13** 项、行业标准 **33** 项

One international standard, 13 national standards and 33 industry standards were issued.

实现“一带一路”项目签约 **1,229.03** 亿元，同比增长 **15.22** %

The signing of the Belt and Road project reached RMB 122.903 billion, up by 15.22% year on year.



做好政府决策支持

Supporting Government Decision-Making

中国能建充分发挥政府智库助手作用，积极参与各级政府“十四五”规划和重点课题研究，开展国家标准宣贯培训，承接政府重大项目评估，协助国家能源监管服务，为政府决策提供专业支持。

- 统筹推进国家能源发展、电力发展、能源技术创新“十四五”三大规划编制研究工作；
Efforts have been made to coordinate and promote the preparation and research of the national energy development, electric power development and energy technology innovation during the “14th Five-Year Plan”;
- 承接多项省级“十四五”能源发展规划研究工作；
Several provincial energy development planning research in the “14th Five-Year Plan” has been undertaken;
- 开展雄安特色小镇智慧能源规划等重点智慧能源规划研究；
The research on smart energy planning of Xiongan characteristic town has been carried out;
- 高质量完成优化中国能源流向、油气体制综合改革等重大课题研究。
Major projects including China's energy flow optimization and comprehensive reform of the oil and gas system have been completed.

参与能源规划研究
Participating in energy planning research

Energy China Group gives full play to the role of government think-tank assistant, and actively participates in the “14th Five-Year Plan” and research on key topics of governments at all levels. In addition to training on the promotion and implementation of national standards, we also undertake evaluation of major government projects, assist in national energy regulatory services, and provide professional support for government decision-making.

- 举办国家标准《塔式太阳能光热发电站设计标准》（GB/T 51307-2018）宣贯培训会，推动标准落地实施，引导规范我国塔式太阳能光热发电站设计。
The training on publicity and implementation of the *Standard for Design of Solar Power Tower Plant* (GB/T 51307-2018) has been held to promote the implementation of the standard, guide and standardize the design of tower-style solar thermal power plants in China.

宣贯国家标准
Publicizing and implementing national standards

- 积极参与电力市场化改革，承接多项电力现货市场、增量配电网评估工作；
Active efforts have been made in market-oriented reform of the power industry, and assessment has been made for power spot market and incremental distribution network;
- 组织召开国家能源局燃气轮机示范项目优选专家评审会，形成备选示范项目建议清单；
The meeting of experts on the selection of gas turbine demonstration projects of the National Energy Administration has been organized to form a list of candidate demonstration projects;
- 牵头组织开展北方地区清洁取暖规划中期评估。
The mid-term assessment of clean heating planning in northern China has been organized.

开展重大项目评估评审
Carrying out evaluation and review of major projects

- 正式启动全国新能源消纳监测预警平台，为政府部门优化新能源布局提供科学决策依据；
China Renewable Energy Monitoring Platform has been officially launched, providing scientific decision-making basis for government departments to optimize the layout of new energy;
- 完成 2019 年典型电网工程投资成效分析报告。
The analysis report on investment effectiveness of typical power grid projects in 2019 was completed.

协助国家能源监管服务
Assisting in national energy regulatory services

案例 Case

全国新能源电力消纳监测预警平台正式启动

China Renewable Energy Monitoring Platform officially launched

2019 年 2 月 20 日，由电力规划设计总院建设运营的全国新能源电力消纳监测预警平台正式启动。此平台是国家能源局管理和指导下建立的公益性、开放式、专业化的信息平台，旨在服务国家能源主管部门和行业发展，充分吸纳各方意见，反映各方诉求，全面、准确反映行业发展面临的问题和趋势，实现新能源消纳“按月监测、按季评估、按年预警”。目前，平台已开始按月、按季度向国家能源局报送新能源发展和消纳形势分析报告，依托平台开展可再生能源、风电、太阳能发展“十三五”规划评估工作，并承担 2019 新能源消纳形势分析及预警研究工作。

On February 20, 2019, the China Renewable Energy Monitoring Platform constructed and operated by the Electric Power Planning & Engineering Institute Co., Ltd. (“EPPEI”) was officially launched. It is a public welfare, open and professional information platform established under the management and guidance of the National Energy Administration (“NEA”). It aims to serve the national energy authorities and the development of the industry, fully absorb the opinions and reflect the demands of all parties, comprehensively and accurately feed back the problems and trends faced by the industry development, and realize the “monthly monitoring, quarterly assessment and annual warning” of renewable energy consumption. At present, the platform has begun to submit monthly and quarterly analysis reports on the development and consumption of renewable energy to the NEA. Based on the platform, the “13th Five-Year Plan” evaluation work for the development of renewable energy, wind power and solar energy was carried out, and the 2019 renewable energy consumption analysis and warning research work was undertaken.



国新能源电力消纳监测预警平台
China Renewable Energy Monitoring Platform

支持行业发展升级

Supporting the Industrial Development and Upgrading

中国能建关注行业发展动向，积极参与行业标准制定，编制行业发展报告，促进行业沟通交流，提升行业影响力，推动行业转型升级，实现更高质量、更可持续的发展。2019 年编制国家和行业标准 47 项，编制《中国能源发展报告 2018》《中国电力发展报告 2018》行业发展报告 2 本，组织召开技术交流、学术交流等行业交流会议和活动 27 次。

Energy China Group pays close attention to the development of the industry, actively participates in the formulation of industry standards, and prepares industry development reports to promote communication and exchange, enhance its industry influence, and promote transformation and upgrade for higher quality and more sustainable development. In 2019, 47 national and industry standards were prepared, 2 industry development reports of *China Energy Outlook 2018* and *China Power Outlook 2018* were prepared, and 27 industry meetings and activities such as technical and academic exchanges were organized.



电视总院发布《中国能源发展报告 2018》
China Energy Outlook 2018 released by EPPEI

案例 Case

举办第四届全国电网技术交流会 Holding the 4th National Symposium on Power Grid Technology

2019 年 11 月 28 日，中国能建电力规划设计总院成功举办第四届全国电网技术交流会，来自国家能源局、中国电机工程学会、国家电网、南方电网等 100 余家单位 320 多位专家代表参加会议。会议总结了近年来我国电网输变电新技术新成果，探讨当前电网技术发展面临的挑战与机遇，展望新形势下电网未来发展趋势，为行业企业互促共进提供广阔交流平台。

On November 28, 2019, EPPEI successfully held the 4th National Symposium on Power Grid Technology, attended by more than 320 expert representatives from over 100 organizations including the NEA, Chinese Society for Electrical Engineering, State Grid Corporation of China and China Southern Power Grid. The Symposium summarized the new achievements of new power transmission and transformation technologies in China in recent years, and discussed the challenges and opportunities faced by the current power grid technology development as well as the future development trend under the new situation. It provided a broad communication platform for industrial enterprises to share mutual benefit and advance together.

编制完成并发布国际标准 **1** 项（IEEE 标准）
We compiled and published one international standard (IEEE standard).

编制国家标准 **13** 项，其中主编 **3** 项
We compiled 13 national standards, of which 3 were developed under our leadership.

编制行业标准 **33** 项，其中主编 **17** 项
We compiled 33 industry standards, of which 17 were developed under our leadership.

加强伙伴共建共享

Strengthening Partnership for Contribution and Sharing

中国能建坚持公平、诚信、共赢的伙伴合作理念，不断完善供应链管理制度，加强供应链管理监督，提升供应链管理能力，持续打造负责任的供应链体系，推动伙伴能力互补、资源互通、风险共担，促进价值链伙伴共同发展。2019 年，中国能建共有供应商 15,009 家，境内供应商 14,801 家，境外供应商 208 家，负责任采购比例达 98.8%。

Energy China Group adheres to the concept of fair, honest and win-win partnership, continuously improves the supply chain management system, strengthens the supervision, and enhances the capability to continuously build a responsible supply chain system. We also promote the complementary capabilities of partners, share resources and risks, and advance the common development of value chain partners. In 2019, Energy China Group had a total of 15,009 suppliers, including 14,801 domestic ones and 208 abroad, with a responsible procurement ratio of 98.8%.

完善供应链管理制度
Improving the supply chain management system

加强供应链管理监督
Strengthening the supervision of supply chain management

提升供应链管理能力
Enhancing the ability of supply chain management

- 修订《招标管理办法》，规范采购流程，确保采购程序公平公正公开；
The *Bidding Management Measures* has been revised to standardize the procurement process, and ensure the justness, fairness and openness of the procurement process;
- 修订《供应商管理办法》，对供应商进行分级管理，明确供应商准入标准，定期对供应商进行考核评估，并按照规定程序将重大失信行为的供应商列入黑名单。
The *Supplier Management Measures* has been revised to carry out hierarchical management on suppliers, clarify the supplier access standards, regularly assess suppliers, and blacklist the suppliers with major dishonesty according to the specified procedures.

- 启动分包商建设工作，全面清理现有分包商；
The construction of subcontractors has been launched to sort out existing subcontractors;
- 组织开展年度供应商评价，对产生业务关系的全部供应商进行考核评估；
The annual supplier evaluation has been organized to evaluate all suppliers in business relationship;
- 拟定集团级供应商黑名单，组织专家评审并公布；
A blacklist of Group-level suppliers has been prepared for the review of experts and publishing;
- 建设大监督体系。现场开展采购督导检查 4 批次 11 家企业，线上督导 5 家企业 49 个项目。
A general supervision system has been established. On site procurement supervision and inspection has been carried out on 11 affiliated enterprises in 4 batches, and on-line supervision has been made on 49 projects of 5 affiliated enterprises.

- 加强采购依法合规培训，开展集中培训、上门培训、综合培训和专项培训等；
The training on procurement compliance has been strengthened, and centralized training, on-site training, comprehensive training and special training have been carried out;
- 扩大培训范围和对象，多维度提升培训受众业务水平；
The scope and object of training have been expanded to comprehensively improve the business level of trainees;
- 全年举办 30 场次培训，共培训 1,699 人次。
Thirty training sessions were held in 2019, with a total of 1,699 trainees.

组织询价时，主动告知供应商相关的采购流程
Inform the suppliers of relevant purchasing process when inquiries are made

商务谈判时，与供应商保持平等、合作的态度
Show an equal and cooperative attitude with suppliers in business negotiation

对供应商提出的疑问，及时给予回复和解答
Reply suppliers' questions in time

对考核和评价结果，及时反馈给供应商
Feed back the assessment and evaluation results to suppliers in time

协助供应商提高产品质量、降低材料成本
Assist suppliers in improving product quality and reduce material cost

中国能建装备集团有限公司推进供应链全流程透明合作
China Energy Engineering Group Equipment Co., Ltd. Promotes Transparent Cooperation in Supply Chain

案例
Case

扶助中小型民营企业
Assisting small and medium-sized private enterprises

中国能建龙江能建公司供应商哈尔滨和兴达物资经贸有限公司是一家中小型民营企业，在与我们合作过程中，出现资金周转困难，需要供货商参与供货，经中国能建龙江能建公司推荐，成为中国能建江南项目的物资供货方，解决了资金问题。在十余年的互惠互利、共赢合作中，哈尔滨和兴达物资经贸有限公司由原来供货能力在 100 万以内的小型供货商，成为具有 1,000 万元供货能力的实力供货商。

Harbin Hexingda Material Economic and Trade Co., Ltd., a supplier of Longjiang Energy Construction Co., Ltd. of China Energy Engineering Group, is a small and medium-sized private enterprise. In the process of cooperation with us, it encountered difficulties in capital turnover and needed suppliers to participate in the supply. Upon the recommendation of Longjiang Energy Construction Co., Ltd, it has become the material supplier of China Energy Engineering Group Jiangnan Project and solved the capital problem. In more than ten years of win-win cooperation, Harbin Hexingda Material Economic and Trade Co., Ltd. has changed from a small supplier with a supply capacity of less than RMB 1 million to a powerful supplier with a supply capacity of RMB 10 million.

深化国际交流合作

Deepening International Exchanges and Cooperation

中国能建秉承“建一项工程、树一座丰碑、交一批朋友、拓一片市场、育一批人才”理念，多渠道促进国际交流，增进各方相互沟通了解，拓展合作机会和空间，并在国际项目建设和运营中，充分考虑项目带给当地的综合价值，对接国际标准规范，高质量推进国际项目，促进“一带一路”沿线能源建设互联互通。

Energy China Group adheres to the concept of “building a project, establishing a monument, making a group of friends, expanding a market and cultivating a batch of talents”. We promote international exchanges through multiple channels, and enhance mutual communication and understanding among all parties to expand opportunities and space for cooperation. We also fully consider the comprehensive value brought to local areas by the projects in the construction of international projects, align with international standards and codes to build international projects with high quality, and enhance the interconnection of energy construction along the Belt and Road.

促进国际交流

International exchanges

中国能建积极搭建国际合作平台，参与国际研讨交流，开展国际项目研究，增进伙伴相互了解沟通，加强经验分享交流，研究国际合作相关标准和成果，为进一步开展国际合作创造良好条件和氛围。

Energy China Group is actively building an international cooperation platform. We participate in international discussions and exchanges, and carry out international project research to enhance mutual understanding and communication among partners. We also strengthen experience sharing, and study relevant standards and achievements of international cooperation, to create favorable conditions and atmosphere for further international cooperation.



搭建国际合作平台
Building international cooperation platforms

- 中芬能源合作平台；
Sino-Finnish energy cooperation platform;
- 国际能源署中国联络办公室；
IEA China;
- 联合国亚太经社会（ESCAP）能源互联互通工作组中方秘书处；
Chinese Secretariat of the Working Group on Energy Connectivity of ESCAP;
- “17+1”能源中心。
“17+1” Energy Center.



参与国际研讨交流
Participating in international discussion and exchange

- 承办首届“一带一路”能源合作伙伴关系论坛；
Organizing the First “Belt and Road” Energy Partnership Forum;
- 举办中国 - 中东欧能源合作论坛；
Hosting the China-CEEC Energy Cooperation Forum;
- 举办澜沧江 - 湄公河电力互联互通合作项目研讨会；
Hosting the Seminar on Lancang-Mekong Power Connectivity Cooperation Project;
- 举办亚太能源互联互通专家组会议；
Hosting meetings of Expert Working Group On Energy Connectivity for Asia and the Pacific;
- 召开《世界能源展望》中国发布会。
Hosting China press conference of *World Energy Outlook*.



开展国际研究项目
Launching international research projects

- 研究起草亚太地区首个政府间电力互联互通纲领性文件《亚太地区电力互联互通路线图》，并通过能源委员会审查；
Drafting the first programmatic document of inter-governmental electricity connectivity in Asia and the Pacific: *Electricity Connectivity Roadmap for Asia and the Pacific*, and passing the review of the energy commission;
- 派员赴巴黎参与编写《中国电力系统转型》。
Sending staff to Paris to participate in the preparation of *China Power System Transformation*.

案例
Case

承办首届“一带一路”能源合作伙伴关系论坛
Organizing the First Belt and Road Energy Partnership Forum

2019 年 12 月 18-20 日，由国家能源局主办、电力规划设计总院承办的“一带一路”能源合作伙伴关系论坛在北京召开，来自 18 个国家 270 余名代表参加论坛。会议讨论能源发展的前沿热点问题以及清洁能源合作路线图，预测“一带一路”清洁能源发展，分享“一带一路”能源合作成功案例，介绍各成员国潜在清洁能源合作项目以及未来开展能源合作的商业计划，为各国政府和企业相互了解、加深合作提供了深度交流机会和平台。

From December 18 to 20, 2019, the Belt and Road Energy Partnership Forum hosted by NEA and organized by EPPEI was held in Beijing. Over 270 representatives from China and 18 other countries participated in the forum. The participants discussed the cutting-edge issues of energy development and the road map for clean energy cooperation to predict the development of clean energy along the Belt and Road. They shared successful cases of energy cooperation, introduced potential clean energy cooperation projects and future business plans for energy cooperation, and provided in-depth exchange opportunities and platforms for all governments and enterprises to enhance mutual understanding and deepen cooperation.

案例 Case

举办中国 - 中东欧能源合作论坛

Holding the China-CEEC Energy Cooperation Forum

2019 年 10 月，电力规划设计总院在克罗地亚成功主办中国 - 中东欧能源合作论坛，来自中国及中东欧国家 160 余名代表参加论坛。会议讲解了中国和中东欧国家清洁能源发展的支持政策、发展规划、最佳实践，讨论了中国 - 中东欧国家风能和光伏发电潜力、激励政策、投融资、商业合作模式，促进中国和中东欧各国能源主管部门就共同研究制订“17+1”能源合作纲要达成共识，有效推动中国及中东欧国家在风电、光伏、地热等清洁能源领域扩大合作。

In October 2019, EPPEI successfully hosted the China-CEEC Energy Cooperation Forum in Croatia, with more than 160 representatives from China and Central and Eastern European Countries ("CEEC"). The Forum explained the supporting policies, development plans and best practices of clean energy development in relevant countries, and discussed the potential of wind energy and photovoltaic power generation, incentive policies, investment and financing, and commercial cooperation modes in China and CEEC. The energy authorities of those countries were encouraged to reach a consensus on jointly studying and formulating the "17+1" energy cooperation outline, effectively expanding cooperation in clean energy fields such as wind power, photovoltaic and geotherm.



案例 Case

举办澜沧江 - 湄公河电力互联互通合作项目研讨会和培训班

Holding seminars and trainings on Lancang-Mekong Power Connectivity Cooperation Project

2019 年，电力规划设计总院承担澜沧江 - 湄公河电力互联互通合作项目，先后召开 2 次国际研讨会及 3 期培训班，来自中国、老挝、缅甸、柬埔寨、泰国、越南共 300 余名代表参加，为澜湄国家培训电力专业技术人员 80 余名，还提供一系列实地考察和技术交流活动，有效增进澜湄各国对互联互通的了解和共识，带动中国电力技术标准走出去。

In 2019, EPPEI undertook the Lancang-Mekong Power Connectivity Cooperation Project, and held two international seminars and three training sessions attended by over 300 representatives from China, Laos, Myanmar, Cambodia, Thailand and Vietnam. More than 80 electric power professionals and technicians from Lancang-Mekong countries received the training. A series of field visits and technical exchanges were also provided to effectively enhance the understanding and consensus of Lancang-Mekong countries on connectivity and drive China's power technical standards to go global.



推进国际合作

International cooperation

中国能建在推进国际项目过程中，加快形成国际业务高端平台，为国际伙伴提供工程承包、海外投资、国际贸易和管理咨询等专业服务，坚持本地采购，雇佣本地员工，带动本地产业发展和技术进步，改善当地生产生活条件，以高质量的项目和负责的实践赢得国际合作伙伴信赖，2019 年，实现“一带一路”签约 1,229.03 亿元，同比增长 15.22%。

In the process of promoting international projects, Energy China Group accelerates the establishment of a high-end platform for international business, and provides professional services such as project contracting, overseas investment, international trade and management consulting for international partners. We insist on local procurement, and hire local employees to promote local industrial development and technological progress, and improve local production and living conditions, thus winning the trust of international partners with high-quality projects and responsible practices. In 2019, the Belt and Road contracts reached RMB 122.903 billion, up by 15.22% year on year.

案例 Case

越南海阳燃煤电站项目带动当地经济社会发展

Vietnam Hai Duong Thermal Power Plant Project promotes local economic and social development

中国能建越南海阳燃煤电站项目采用两台 60 万千瓦亚临界机组和 4 台 30 万千瓦循环流化床锅炉，是越南国内装机容量最大的项目之一，预计年发电量将达到 81 亿千瓦时。自项目开工以来，已为当地解决就业约 1,200 人，面向分包越籍员工在内的员工开展技能技术培训，与 60 余家越南分包商密切合作，带动当地就业、培养当地人才、拉动当地经济发展。在该项目的带动影响下，项目所在的荆门市福城乡被评选为越南首批新农村示范基地，荆门市已经破格升级为荆门市。

Vietnam Hai Duong Thermal Power Plant, which uses 2x 600 MW subcritical units and 4x 300 MW circulating fluidized bed boilers, is one of the projects with the largest installed capacity in Vietnam and is expected to generate 8.1 GWh of electricity annually. Since the start of the project, about 1,200 local staff have been employed. Technical training has been carried out for employees including subcontracted Vietnamese. We have worked closely with more than 60 Vietnamese subcontractors to promote local employment, train talents and stimulate local economic development. Due to the driving influence of this project, Xã Phúc Thành (Township) of Huyện Kinh Môn (County), where the project is located, has been selected among the first batch of new rural demonstration bases in Vietnam, and Huyện Kinh Môn (County) has been exceptionally upgraded to Thị xã Kinh Môn (City).



“作为越南国家重点项目，海阳燃煤电站将有效解决当地电力短缺问题，带动产业升级，为越南经济社会发展注入新动能。这是一个惠民生、助发展的好工程。”

As a key national project, Hai Duong Thermal Power Plant will effectively solve the problem of local power shortage, promote industrial upgrading and inject new momentum into Vietnam's economic and social development. This is a good project that benefits people's livelihood and helps development.

——越南海阳省委书记阮孟显
——Nguyen Manh Hien, Secretary of Hai Duong Provincial Party Committee of Vietnam

助和谐，共迎美好

Facilitating Social Harmony to Embrace a Brighter Future



做优秀的企业公民是中国能建孜孜以求的目标和重要的价值理念。在经营发展过程中，中国能建积极融入国内外业务所在地社区，主动承担企业社会责任，与社区和谐共融、共同发展，为建设美好生活贡献力量。

Being an excellent corporate citizen is our goal and ideal. During operation and development, Energy China Group earnestly integrates into local communities both at home and abroad, shoulders corporate social responsibility, and develops hand in hand with local communities to contribute to building a better future.

关键议题

Key topics

- 公益慈善
Charity
- 海外履责
CSR Fulfillment Overseas

主要行动策略

Major strategic actions

- 支持公益慈善事业，通过开展社区共建、热心教育事业、关爱残障人士、弘扬敬老爱老等举措，因地制宜开展志愿服务。 Supporting public welfare through voluntary activities such as community construction, education, care for the disabled, and respect for the elderly.
- 推进海外履责，尊重当地文化习俗和法律法规，加强与当地政府、社区和属地员工交流沟通，支持当地教育、完善基础设施建设、援助应急救灾，增进项目周边民生福祉。 Promoting CSR fulfillment overseas; observing local cultures, customs, laws and regulations; strengthening communication with local governments, communities and employees; supporting local education; improving infrastructure construction; assisting emergency relief; and improving livelihood and well-being of people living around the project sites.

核心管理绩效

Core management performance

2,358.49

公益慈善捐款 (万元)
Donation totaled RMB 23.5849 million



支持公益慈善事业

Supporting Public Welfare

中国能建重视人文关怀，热心公益慈善事业，根据业务所在地社区民生发展和实际需求，因地制宜开展各类公益捐助及志愿服务，为居民美好生活贡献力量。2019 年，中国能建公益慈善投入 2,358.49 万元。

Energy China Group thinks highly of humanistic care and public welfare. We carry out tailored charity and volunteer activities in line with local conditions and demands to lift the living standard of local residents. In 2019, our investment in public welfare totaled RMB 23.5849 million.

开展社区共建

Community development

我们关注业务所在地社区发展，积极改善社区生产生活和医疗卫生条件，为社区居民开展义务剪发、眼镜洗护、健康体检和讲座等系列志愿服务活动，与当地社区共建共享美丽家园。

We bear in mind the development of local communities, actively improve the production, living, healthcare conditions in local areas, and offer residents with voluntary services, including haircut, glasses washing and maintenance, physical examination, and health lectures to build a shared home with local communities.

案例
Case

开展“学习雷锋好榜样 广东火电在行动”志愿服务活动 "Learning from Lei Feng, Guangdong Power Engineering is in action"

2019 年 3 月 5 日，广东火电开展以“学习雷锋好榜样 广东火电在行动”为主题的系列志愿服务活动，组织广大青年志愿者集体行动，为广州黄埔火电社区居民义务剪发、健康体检、洗护眼镜，现场讲解乘坐地铁基本知识及各类生活小常识，帮助社区老人学习网上挂号、电子支付、拍摄小视频等技能，为社区提供场地举办居民健康讲座 24 场，以实际行动弘扬雷锋精神，赢得居民点赞。

On March 5, 2019, Guangdong Power Engineering Co., Ltd. launched the "learning from Lei Feng" voluntary activity. We mobilized young volunteers to give free haircut, physical examination and glasses washing services to people living in our corporate residential compound. Our volunteers also offered tips on subway transportation and everyday life, helped the elderly pick up skills such as online registration, e-payment and video shooting, and held 24 healthcare lectures for the community, winning extensive acclaim from residents.



广东火电志愿者为社区老人免费体检
Guangdong Power Engineering's volunteers give free medical checks to senior residents

案例
Case

开展社区公共卫生服务 Developing community public healthcare service

2019 年，葛洲坝集团宜昌基地管理中心全方位落实公共卫生服务项目，为 8 家社区卫生服务机构完成家庭健康档案 118,106 份，建档率达 84.75%；规范管理高血压患者 11,489 人，管理率 87.25%；规范管理糖尿病患者 3,751 人，管理率 85.74%。为社区更换宣传栏 60 期，为辖区适龄儿童提供国家免疫规划类疫苗和二类疫苗接种，共接种 12,576 针次，对宜昌基地 6.3 万居民及离退休人员进行家庭医生签约及提供个性化服务，切实提升社区公共卫生水平。

In 2019, the Management Center of Yichang Base of China Gezhouba Group launched an all-round public healthcare project, which successfully filed 118,106 family health records for 8 community health institutions, achieving a filing rate of 84.75%; the Center standardized management of 11,489 patients with hypertension, covering 87.25% of the total, and standardized management of 3,751 patients with diabetes, or 85.74% of the total. The Center also designed 60 issues of billboards for the community, provided vaccines in China's National Immunization Program and class II vaccines for school-age children, which totaled 12,576. We also offered family doctors and tailored services to 63,000 residents and retirees in Yichang Base to effectively raise the level of community public healthcare.



葛洲坝集团联合医疗机构开展大型义诊进社区活动
Free community healthcare by China Gezhouba Group and medical institutions

热心教育事业

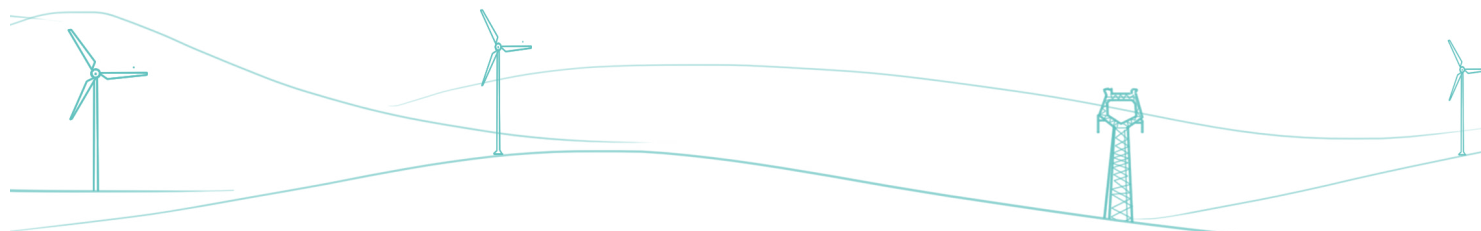
Engaged in Education

中国能建热心教育事业，针对服刑人员子女、少数民族贫困女学生、特殊教育学校学生等不同背景儿童和青少年的学习教育需求，捐赠学习生活用品，开展公益讲学游学，陪同读书游戏，帮助他们好好学习、快乐成长。

Energy China Group deeply involves itself in education. We cater to the demands of various groups, such as children of convicts, impoverished female students of ethnic minorities and students of special education through donation of learning and daily necessities, free lectures, academic tours, and book clubs to help with their study and growth.



中能智新公司在北京顺义区春苗儿童成长基地“小花之家”陪同孩子们念书
EPPEI Smart Energy's volunteers read to children of Chunmiao Little Flower Project in Shunyi district, Beijing





广东火电在从化区开展以“不忘初心使命 护航阳光成长”为主题的关爱服刑人员未成年子女中秋探访活动，走访 10 户服刑人员子女

Guangdong Power Engineering Co., Ltd. visits 10 children of convicts during the Mid-Autumn Festival in Conghua area

关爱残障人士

Care for People with Disability

中国能建关注残障人士，在第二十九次全国助残活动月期间，开展助残志愿服务，帮助他们感受科技力量、树立生活信心。2019 年，广东火电志愿队联合广青协助残服务总队，开展助残“科学启蒙路，助残公益行”志愿活动，组织残障人士参观广东科技馆。

During the 29th National Day for Helping the Handicapped, Energy China Group called on volunteers to help the handicapped feel the power of science and technology, and build up their confidence in life. In 2019, Guangdong Power Engineering Co., Ltd.'s volunteer team, along with League of Offering Support for the Handicapped of Guangzhou Volunteer Association, launched the activity under the theme of "approaching science and technology" to organize disabled people to visit Guangdong Science and Technology Museum.

弘扬敬老爱老

Care for the Elderly

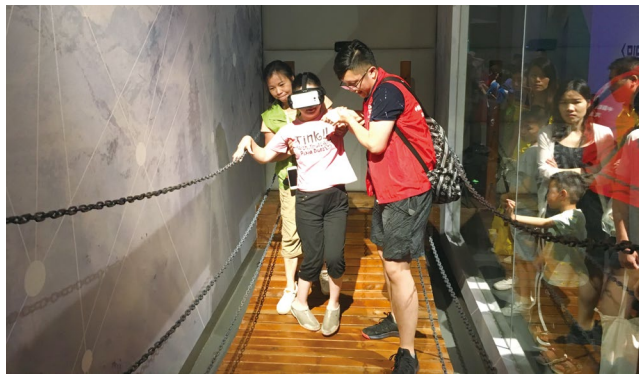
我们关注老年群体的身体健康、日常生活和精神文化需求，为社区、敬老院、老年活动中心、养老服务中心的老年群体赠送生活用品，提供免费午餐、健康义诊，帮助打扫卫生，支持文艺展演，让他们感受到社会大家庭的温暖。2019 年，广东火电与黄埔社区“共治共建共享”，联合开展“关心独居空巢老人”活动，并为黄埔老人活动中心设立老年人免费午餐，全年服务 5,800 人次。

We care for the physical and mental health, daily life and cultural demands of the elderly at the community, nursing homes, senior centers, and elderly care service centers through donating daily necessities, offering free lunches, free healthcare, cleaning services and literature and art exhibitions to pass on the love of the society. In 2019, Guangdong Power Engineering Co., Ltd. and Huangpu Community, under the principle of "shared governance, construction and benefits", jointly carried out the activity of "caring for the empty nesters", and provided free lunch for the elderly in Huangpu senior center, serving 5,800 people throughout the year.



江苏电建一公司“郭明义”爱心团队走进秦淮区特殊教育学校开展志愿服务

Jiangsu No. 1 Electric Power Construction provides volunteer services for special education schools in Qinhuai district



帮助身患脑瘫的小姑娘带上 SD 视觉科技眼镜亲身体验走过雪山吊桥
Helping the girl with cerebral palsy wearing SD vision glasses to walk along the suspension bridge across snow-capped mountains



科技发展公司开展天津市东丽区老年人优秀文艺作品展演志愿服务
Engineering Institute of China Energy Engineering Group Co., Ltd.'s volunteers host the Excellent Literary and Artistic Work Exhibition for the elderly in Dongli district of Tianjin province

积极践行海外履责

Boosting CSR Fulfillment Overseas

中国能建在海外积极践行企业社会责任，关注当地文化传统，重视项目可能对当地社区产生的影响，与当地政府、社区、学校和属地员工建立有效沟通机制，从当地教育、基础设施、应急救援等多个领域支持当地社区发展，增进当地民生福祉，加深中外友谊。

加强社区沟通

Community communication

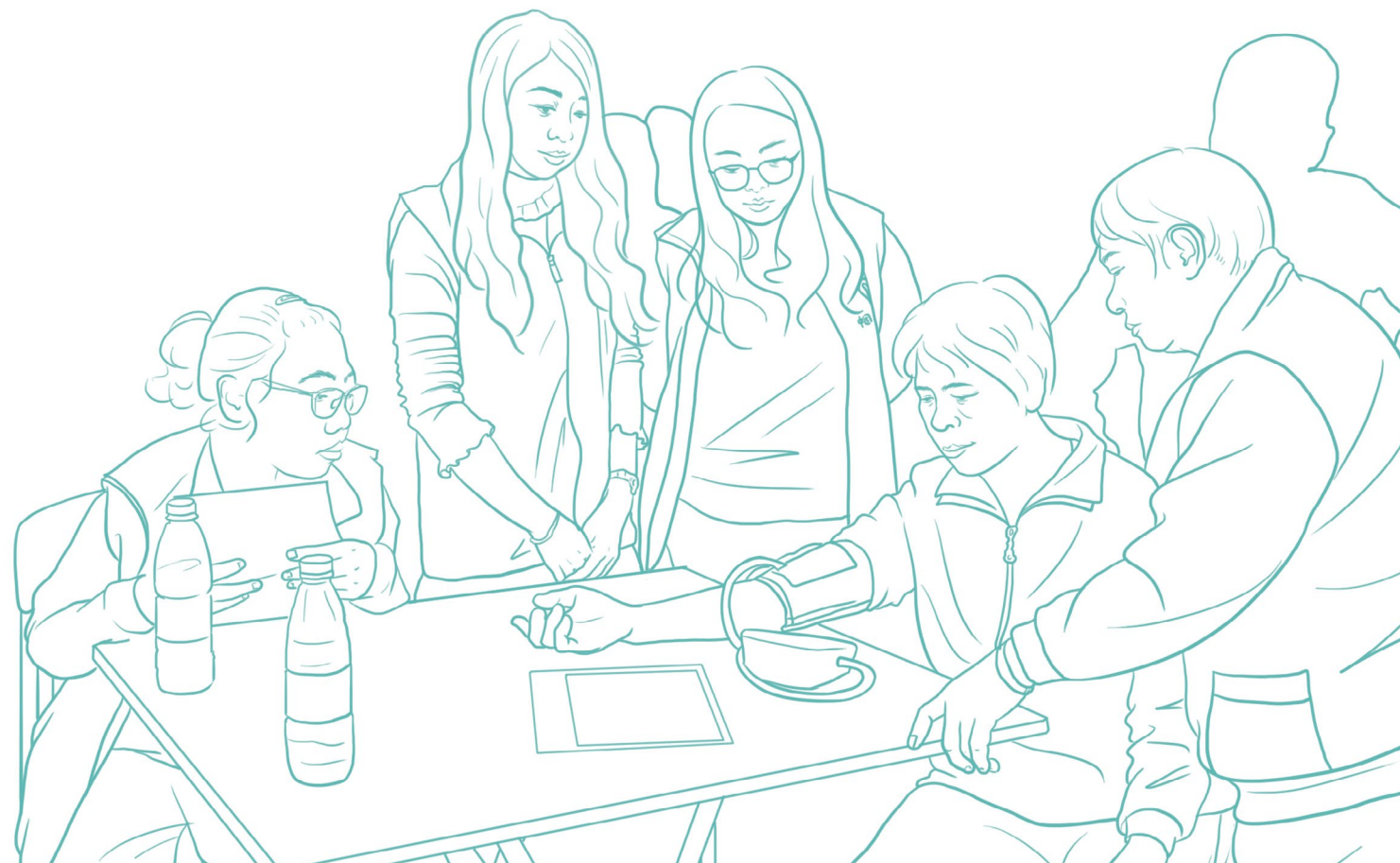
在海外项目建设运营过程中，我们尊重当地文化习俗和法律法规，向驻外员工宣贯当地文化礼仪，为当地员工建立穆斯林参拜场所、沙滩排球场等设施，组织中外员工聚会，开展文体活动，促进中外员工文化、感情交流。

我们畅通社区沟通渠道，主动走访慰问附近村落、学校，邀请学校师生到项目实地参观交流，广泛了解并回应社区关切，满足社区合理诉求，与当地社区建立和谐友好的互动关系。

Energy China Group actively performs corporate social responsibility overseas, respects local cultures and traditions, puts emphasis on the impacts of project construction on local communities, and establishes effective communication mechanism with local governments, communities, schools and employees. We support the development of local communities from the aspects of local education, infrastructure, and emergency response and disaster relief to enhance the well-being of local people and deepen the friendship between China and foreign countries.

During the construction and operation of overseas projects, we strictly observe local cultures, customs, laws and regulations, publicize local culture and etiquette to staff stationed overseas, establish Muslim worship sites, beach volleyball courts and other facilities for local employees, and hold social gatherings and sports events for Chinese and foreign staff to promote cross-cultural exchanges.

We clear the communication channels with communities, visit nearby villages and schools, and invite faculty and students to visit project sites. We address the concerns of local communities, and meet their reasonable demands to establish a harmonious friendship with local communities.



案例 Case

举办“约旦油页岩电站项目开放日”活动 The "Jordan oil shale power plant open day"

广东火电 EPC 总承包建设的约旦阿塔拉特油页岩电站是“一带一路”重点工程，是中国企业在约旦的第一个大型项目，也是约旦最大电站项目。项目投产后，年供电量将达 37 亿千瓦时，可满足约旦 10%-15% 用电需求，可提供 4,500 个工作机会，有效推动约旦经济发展。

2019 年 11 月 17 日，广东火电组织开展“约旦油页岩电站项目开放日”活动，邀请 30 余名约旦当地社区军事学校师生参观正在施工建设的约旦油页岩电站项目，科普讲解约旦项目概况、效益和电站工作原理，现场为师生答疑。活动让与会师生增长知识、拓宽视野、引发思考，加深了广东火电海外员工与约旦当地社区军事学校师生的了解和友谊。

As a major project of the Belt and Road Initiative, the Attarat Jordan Oil Shale Power Plant Project contracted and constructed by Guangdong Power Engineering Co., Ltd. in the form of EPC, is the first large-scale project undertaken by Chinese enterprises and the largest power plant in Jordan. After completion, the annual power supply will reach 3.7 TWh, which meets 10% to 15% of Jordan's electricity demand, provides 4,500 job opportunities, and effectively drives local economic growth.

On November 17, 2019, Guangdong Power Engineering Co., Ltd. organized the "Jordan oil shale power plant open day" activity, inviting over 30 teachers and students from the local community military school to visit the project under construction. The company gave a project overview, explained its benefits and operation principles, and answered questions from the visitors to expand their knowledge, broaden their horizons, trigger thinking, and deepen the understanding and friendship between its staff and local people.



“约旦油页岩电站项目开放日”约旦当地社区军事学校师生在项目部办公室前合影

Teachers and students posing for a group photo in front of the office of Project Department on "Jordan oil shale power plant open day"

支持改善民生 Livelihood improvement

- **支持当地教育。**我们多次向老挝、尼日利亚、白俄罗斯等多国小学、高中捐赠图书和学习生活用品，举办演讲比赛，开展助学助教活动，支持当地教育事业的发展，提升当地教育水平。
- **完善基础设施建设。**我们充分利用资金、设备、人员等资源，直接捐赠资金，赞助道路修建，派出机械设备和人员修建排水沟，改善当地交通、医疗等基础条件。
- **援助应急救灾。**我们为当地遭受旱灾、洪灾影响的居民提供及时的人道主义救援。为安哥拉南部受旱灾影响的居民捐赠物资，为莫桑比克受飓风破坏的灾区捐款，协助当地政府抢险救灾，帮助灾区人民渡过难关。

Support local education. We have donated books and daily necessities to primary and high schools in Laos, Nigeria and Belarus for many times, held speech contests, and volunteer teaching activities to support and improve local education.

Improve infrastructure. We have fully mobilized funds, equipment, and personnel to make financial contributions, sponsor road construction, and deploy mechanical equipment and personnel to build drainage ditches to upgrade local transportation and medical care conditions.

Support emergency response and disaster relief. We have delivered timely humanitarian relief to local residents affected by drought and flood. We also made in-kind donations to drought victims in southern Angola, and provided donations to hurricane plagued areas in Mozambique, and assisted the local government in disaster relief.

案例 Case

打造“蒲公英”志愿服务品牌 Building the brand of "Dandelion" volunteer service

2019 年，葛洲坝国际公司组织开展了“传递关爱、筑梦未来”学雷锋系列活动。全球各地的葛洲坝国际“蒲公英”志愿者们，根据当地需求，为孤儿院援助物资、文体用品，向当地贫困职工援助衣物食品等生活物资、科普环保知识，以形式多样的志愿者活动传递爱心。

In 2019, China Gezhouba Group International Engineering Co., Ltd. launched a series of activities to carry forward the selfless practices of Lei Feng themed "delivering care, building the future". The "Dandelion" volunteers of this company from all over the world provided aid materials and cultural and sports supplies for orphanages, and daily necessities such as clothing, and food, and popularized science and environmental protection knowledge to local impoverished workers to convey love.



“学雷锋”捐赠旧衣物活动中外员工合影

Chinese and foreign employees at "Learning from Lei Feng" old clothes donation

责任绩效

CSR Communication

指标大类 Category	绩效指标 Performance indicators	2019	2018	2017
市场绩效 Market performance	资产总额（亿元） Total Assets (RMB 100 million)	4,252.82	3,965.54	3,557.83
	负债总额（亿元） Total Liabilities (RMB 100 million)	3,093.27	2,973.33	2,697.87
	所有者权益（亿元） Investors Equity (RMB 100 million)	1,159.55	992.21	859.96
	净资产收益率（%） Return on Equity (%)	8.6	9.56	10.14
	总资产报酬率（%） Return on Assets (%)	4.06	4.11	4.25
	国有资产保值增值率（%） Rate of Value Preservation and Increment of State-owned Assets (%)	108.8	111.0	105.4
	年度科技支出总额（万元） Total S&T Expenditures of the Year (RMB 10,000)	714,052.25	621,606.50	610,820.10
	技术投入比率（%） Technical Input Ratio (%)	2.87	2.75	2.58
	新增专利数（项） New Patents	1,424	1,289	1,349
社会绩效 Social performance	纳税总额（亿元） Total Tax Paid (RMB 100 million)	110.99	125.28	116.99
	从业人数（人） Number of Employees	121,788	137,154	139,646
	在职职工（人） Number of In-service Employees	122,560	129,929	135,929
	在岗职工（人） Number of On-the-job Employees	107,586	114,226	120,042
	新增就业人数（人） Number of New Jobs Offered	4,381	3,973	4,467

指标大类 Category	绩效指标 Performance indicators	2019	2018	2017
社会绩效 Social performance	劳动合同签订（%） Rate of Signing Labor Contract (%)	100	100	100
	社会保险覆盖率（%） Coverage of Social Insurance Program (%)	100	100	100
	女性管理者比例（领导班子）（%） Percentage of Women Leaders (%)	3	3	4
	员工培训投入（万元） Employee Training (RMB 10,000)	1,389	1,335	1,200
	员工流失率（%） Employee Turnover Rate (%)	5.07	4.90	4.78
	捐赠总额（万元） Total Donations (RMB 10,000)	2,358.49	501.36	1,309.72
	安全培训人数（人次） Participants in Safety Training	425,000	404,000	391,000
	安全生产投入（亿元） Inputs in Work Safety (RMB 100 million)	24.01	20.18	15
环境绩效 Environmental Performance	环保培训人数（人）/ 覆盖率（%） Participants in Environmental Training/Coverage (%)	75,000/61	70,000/52	60,000/42
	环保总投资（亿元） Total Environmental Investments (RMB 100 million)	7.76	4.03	8.32
	二氧化硫排放量（吨） SO ₂ Emissions (ton)	8,127	8,249	9,012
	氮氧化物排放量（吨） NO _x Emissions (ton)	17,175	17,679	17,867
	废水排放化学需氧量（吨） COD in Waste Water (ton)	7,007	7,181	7,203
	废水排放氨氮量（吨） NH ₃ -N Discharge in Waste Water (ton)	1,058	1,082	1,084

展望 Outlook

初心聚能，美好共建。2020 年是国家全面建成小康社会的收官之年，是中国能建实现基本建成具有国际竞争力工程公司阶段目标的决胜之年。我们将坚持新发展理念，以更高质量、更有效率、更可持续的发展，为“十四五”顺利开局、建设具有全球竞争力的世界一流工程公司打下坚实基础，为我国全面建成小康社会贡献力量，促进全球可持续发展进程。

Pooling energy for a better future. China is now in the homestretch to completing the building of a moderately well-off society in an all-round way, and 2020 is also a decisive year for Energy China Group to achieve the stage goal of basically building a world-class engineering company with global competitiveness. We will adhere to the new development concept, and pursue a more efficient and sustainable development with higher quality, to lay a solid foundation for the smooth start of the "14th Five-Year Plan" and the realization of the company stage goal, and contribute to building a well-off society in an all-round way in China and global sustainable development.

- **携责任稳步前行。**牢固树立规范运作的底线思维和红线意识，不断推动规范运作成为思想自觉、管理自觉、行动自觉。推进法治能建建设，增强合规意识，培育合规文化。建立健全多层次风险管控体系，确保体系有效运行，严防各类风险叠加共振。夯实安全发展基础，层层落实安全生产责任，切实防范安全风险，严肃安全生产问责追责，推动安全生产形势持续稳定向好。

Progressing forward steadily with responsibilities. Energy China Group will firmly establish the bottom line thinking and red line consciousness, and keep promoting standardized operation. By advancing law-based governance, we will enhance the employees' compliance awareness and foster a compliance culture. A multi-level risk control system will be improved to ensure effective operation and prevent all kinds of risks from overlapping and resonating. Furthermore, we will consolidate the foundation for safe development, implement hierarchical responsibilities for work safety, effectively prevent safety risks, and seriously pursue accountability to promote the continuous stability and improvement of work safety.

- **促业务高质量发展。**强化质量管理体系建设和资源投入，强化质量品牌建设，大力实施质量强企战略，打造叫得响、行得通的质量“名片”。加快转型升级步伐，促进业务结构和布局不断优化，形成发展新动能，构筑发展新优势。实施“走出去”战略，加快全球化市场布局，持续推动国际合作，进一步为“一带一路”建设和全球能源互联互通建设贡献力量。

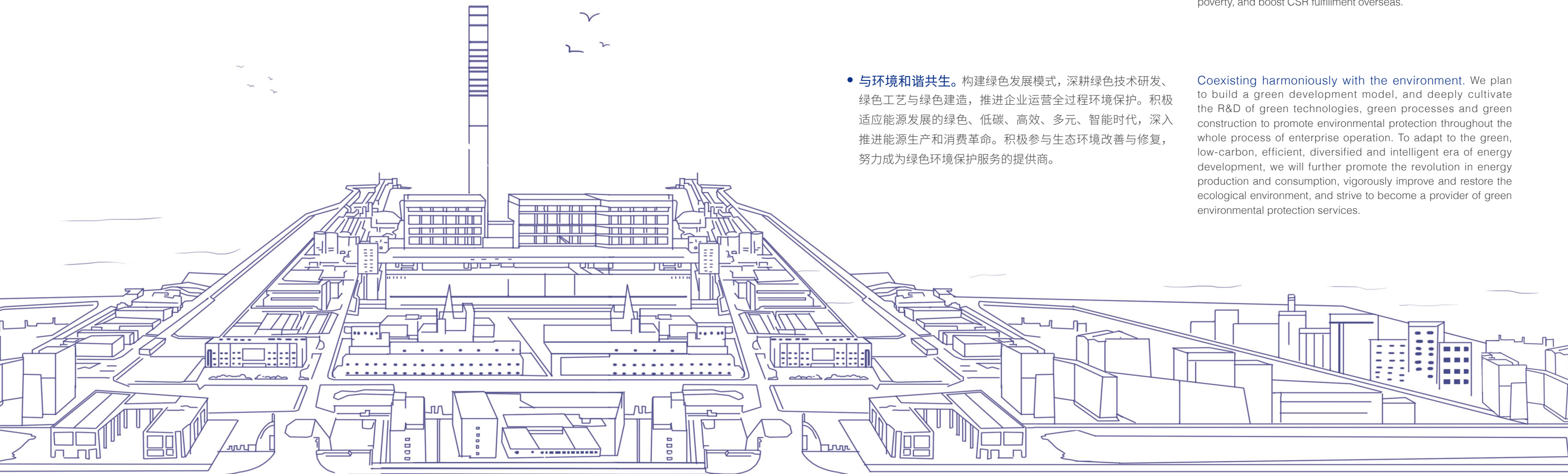
Promoting high-quality development. We will strengthen the construction of the quality management system and resource investment, enhance quality control and brand building, and vigorously implement the strategy of empowering the enterprise through quality to create a quality trustworthy brand. By accelerating the pace of transformation and upgrading, and optimizing the business structure, new momentum and new advantages for development will be formed. Moreover, we will implement the "going global" strategy, accelerate the distribution of global markets, and keep promoting international cooperation to further contribute to the implementation of "the Belt and Road Initiative" and global energy connectivity.

- **为社会创造价值。**始终置身于国家经济建设和社会发展大局之中，坚持以产品创新和服务创新满足客户多样化需求，打造共赢产业链助力行业发展。构建包容、平等的工作环境，提供优越的发展空间，将职工价值追求融入中国能建发展愿景，实现员工与企业的共同成长。与社会共享发展成果，继续支持慈善公益事业，助力脱贫攻坚，推进海外履责。

Creating value for society. We will always serve the national economic and social development, and adhere to product and service innovation to meet the diversified needs of customers, and to create a win-win industrial chain. To realize the common growth of employees and the company, we will build an inclusive and equal working environment, provide superior development space, and integrate the pursuit of employee values into the development vision of Energy China Group. In addition, we will share the outcome with society, continue to support public welfare undertakings, help end poverty, and boost CSR fulfillment overseas.

- **与环境和谐共生。**构建绿色发展模式，深耕绿色技术研发、绿色工艺与绿色建造，推进企业运营全过程环境保护。积极适应能源发展的绿色、低碳、高效、多元、智能时代，深入推进能源生产和消费革命。积极参与生态环境改善与修复，努力成为绿色环境保护服务的提供商。

Coexisting harmoniously with the environment. We plan to build a green development model, and deeply cultivate the R&D of green technologies, green processes and green construction to promote environmental protection throughout the whole process of enterprise operation. To adapt to the green, low-carbon, efficient, diversified and intelligent era of energy development, we will further promote the revolution in energy production and consumption, vigorously improve and restore the ecological environment, and strive to become a provider of green environmental protection services.



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编制说明

本报告是中国能源建设集团有限公司发布的第八份年度社会责任报告。报告向中国能源建设集团有限公司所有利益相关方，全面披露集团社会责任理念、实践和成效。

报告范围

本报告为 2019 年度报告，内容覆盖中国能源建设集团有限公司总部以及所属企业（单位）2019 年 1 月 1 日至 2019 年 12 月 31 日期间履行社会责任工作的表现，部分内容超出上述范围。

编制依据

- 国务院国资委《关于中央企业履行社会责任的指导意见》（国资发研究〔2008〕1 号）
- 国务院国资委《关于国有企业更好履行社会责任的指导意见》（国资发研究〔2016〕105 号）
- 国家标准化管理委员会《社会责任报告编写指南》（GB/T 36001-2015）
- 中国社会科学院《中国企业社会责任报告指南》（CASS-CSR 4.0）
- 全球可持续发展标准委员会（GSSB）《GRI 可持续发展报告标准》（GRI Standards）

称谓说明

为便于表述和阅读，本报告“中国能建”“我们”指代中国能源建设集团有限公司。

报告获取

您可以在中国能建网站（www.ceec.net.cn）上浏览或下载报告电子文本，并了解我们的更多相关信息。如对报告内容有任何疑问或者需要纸质版报告，可通过以下方式联系我们。

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About the Report

We are now presenting the 8th social responsibility report of China Energy Engineering Group Co., Ltd. as a comprehensive disclosure of our CSR concepts, practices and achievements to all our stakeholders.

Reporting Period

This annual CSR report covers Energy China Group and all its subsidiaries throughout the period from January 1, to December 31, 2019, and this report includes additional content and information that pre-dates the stated reporting period.

Compliance Conformance

- *Guiding Opinions on Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities* (GZFYJ [2008] No.1) by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)
- *Guiding Opinions on Better Fulfilling Social Responsibilities of State-owned Enterprises* (GZFYJ [2016] No.105) by the SASAC
- *Guidance on Social Responsibility Reporting* (GB/T 36001-2015) by Standardization Administration of the People's Republic of China (SAC)
- *Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises* (CASS-CSR 4.0) by the Chinese Academy of Social Sciences(CASS)
- *GRI Sustainability Reporting Standards* (GRI Standards) by Global Sustainability Standard Board (GSSB)

References

For better expression and reading, China Energy Engineering Group Co., Ltd. is hereinafter referred to as “Energy China Group”, “we/us”.

Availability

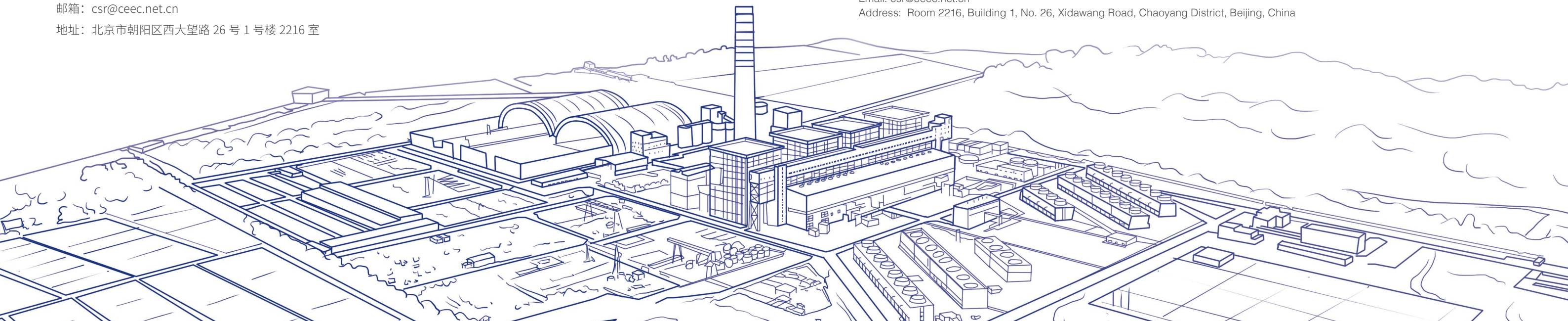
For more information, please visit our website (www.ceec.net.cn) where a PDF version of this report is available. If you have any questions or need a hard copy, please contact us:

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读者意见反馈表

尊敬的读者，为了不断改进报告编制工作，我们特别希望倾听您的意见和建议。欢迎您完成以下问题，并反馈给我们，帮助我们改进。

选择题 (请在相应位置打√)

1. 本报告全面、准确地反映了本企业的社会责任工作现状？

☐很好 ☐较好 ☐一般 ☐较差 ☐很差
2. 本报告对利益相关方所关心的问题进行了回应和披露？

☐很好 ☐较好 ☐一般 ☐较差 ☐很差
3. 本报告披露的信息数据准确、完整？

☐很好 ☐较好 ☐一般 ☐较差 ☐很差
4. 本报告的可读性，即报告的逻辑主线，内容设计，语言文字和版式设计？

☐很好 ☐较好 ☐一般 ☐较差 ☐很差

您认为本报告最让您满意的方面是什么？

您认为还有哪些您需要了解的信息在本报告中没有反映？

您对我们今后的社会责任工作及社会责任报告发布有何建议？

如果方便，请告诉我们您的基本信息。

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职业

机构

联系地址

邮编

邮箱

电话

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Feedback

Dear readers,

Thanks for taking your precious time reading this Report. We are looking forward to your suggestions and opinions. Please complete the following feedback form to help us improve future CSR reporting.
Multiple-choice questions: (Please tick the appropriate box.)

1. The Report provides a comprehensive and accurate disclosure of our CSR performance

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor
2. The Report responds to stakeholder concerns

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor
3. The Report contains accurate and complete data/information

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor
4. The readability in terms of layout, contents, logic threads and wording

☐ Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor

Which aspect of this Report satisfies you the most?

What kind of key information has not been included in the Report?

Do you have any suggestions on our future CSR performance and reporting?

Please leave your basic information, if convenient.

Name

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