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2018 社会责任报告

SOCIAL RESPONSIBILITY REPORT 2018

中国能建 2018 社会责任报告

Energy China Group Social Responsibility Report 2018



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报告范围

本报告为 2018 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）2018 年 1 月 1 日至 2018 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。

编制标准

- 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编写指南之建筑业》（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，本报告用“中国能建”“集团”或“我们”指代中国能源建设集团有限公司。

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About the Report

We are now presenting the 7th 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. This report is prepared in Chinese and English versions. In case of minor disparities, the Chinese version shall prevail.

Reporting Period

The 2018 annual report covers Energy China Group and all its subsidiaries throughout the period from January 1, to December 31, 2018, and this report includes additional content and information that pre-dates the stated reporting period.

Compliance Conformance

- *Guiding Opinions on the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities* (GZFYJ [2018] 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 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 in Construction Industry (CASS-CSR4.0)* 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" or "we/us".

Reliability Assurance

All data contained herein are sourced from the official documents and statistics reports of China Energy Engineering Group Co., Ltd. We hereby represent that the report contains no false representations, misleading statements or material omissions, and is liable for the authenticity, accuracy and completeness of the contents.

Availability

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

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董事长致辞

Message from the Chairman



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.

汪建平

2018年，是中国能建加快推进业务转型、全面深化各项改革、着力培育发展新动能的攻坚之年。我们深入学习贯彻习近平新时代中国特色社会主义思想 and 党的十九大精神，认真落实党中央、国务院、国务院国资委各项决策部署，紧紧围绕建设具有国际竞争力工程公司的发展目标，坚持战略引领，坚持深化改革，坚持转型发展，坚持规范运作，坚持全面从严治党，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，公司总体保持了平稳发展态势。全年新签合同额4640.67亿元，同比增长4.11%；国际电力项目实现签约1183.84亿元，同比增长26.57%；实现营业收入2260.67亿元、利润总额115.92亿元，有效实现资产保值增值；再次获评中央企业负责人年度（2017年度）经营业绩考核A级，在中央企业党建工作责任制首次考评中荣获“优秀”等级。

中国能建把积极履行社会责任作为推动高质量发展的重要内容，融入发展战略、融入企业运营，加强组织领导，全面扎实推进社会责任工作取得积极成效。贯彻落实党中央、国务院和国务院国资委关于脱贫攻坚的决策部署，聚集团力量做好对口县定点扶贫工作，坚持精准扶贫、精准脱贫基本方略，在基础设施建设、产业扶贫、消费扶贫、教育扶贫等方面加大投入，对口县脱贫工作取得决定性进展。坚持创新驱动，打造精品工程，2018年获得国家科学技术奖3项、省级和行业级科技奖220项、专利授权1289项、软件著作权106项、国家优质工程奖32项（含金质奖7项）、菲迪克2018年工程项目奖2项、中国安装之星5项、中国电力优质工程41项。不断夯实环境、安全和质量管理，全年未发生环境事件和节能减排违法违规事件，未发生一般以上生产安全事故。

2019年，中国能建将坚持以习近平新时代中国特色社会主义思想为指导，坚持稳中求进工作总基调，坚持新发展理念，按照高质量发展的要求，努力实现更高质量、更有效率、更可持续的发展。遵循“自主创新、奉献社会，科学发展、共建和谐”的社会责任观，积极履行中央企业社会责任，打造政府认可、投资者青睐、业主满意、职工幸福、绿色环保的和谐发展企业，服务于人民美好生活向往，助力全面建成小康社会。

2018 was a crucial year for Energy China Group to rev up business transformation, comprehensively deepen reforms, and foster new drivers of development. We carefully studied the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the guiding principles of the 19th CPC National Congress and followed the guidelines of the CPC Central Committee, the State Council and the SASAC. Focusing on the goal of building an internationally competitive engineering enterprise, we adhered to strategic guidance, deepening reform, transformation and development, standardized operations as well as full and strict governance over the Party, and addressed such challenges as the grim market trend, mounting transformation pressure and the task for keeping business growth, thus maintaining stable development against all odds. Over the year, we signed RMB 464.067 billion worth of new contracts, up 4.11% year on year; among them, RMB 118.384 billion were contracts for international power projects, up 26.57% year on year. We realized operating revenue of RMB 226.067 billion and created RMB 11.592 billion of profits, ensuring maintenance and appreciation of our assets. Energy China Group was rated Class A once again in 2017 Annual Business Performance Assessment of the Leadership of Central State-owned Enterprises(SOE),and “outstanding” in the first evaluation of Party building responsibility systems of Central SOE.

CSR is an important part of Energy China Group's efforts to promote the high quality development. We integrate CSR into corporate strategies and operations, strengthen organizational leadership, and comprehensively promote our CSR work, thus having achieved good results. We followed the guidelines of the CPC Central Committee, the State Council and the SASAC on poverty alleviation and implemented the targeted poverty alleviation and elimination strategies to channel the forces of all our subsidiaries to support the poverty alleviation in targeted counties. We increased input in boosting infrastructure, industries, consumption and education and other aspects. As a result, we made decisive headway in poverty alleviation of the targeted counties. We were committed ourselves to innovation-driven development and high-quality projects. In 2018, we won three State Science and Technology Awards, 220 provincial and industrial science and technology awards, 1,289 patents, 106 software copyrights, 32 National Quality Project Awards(including 7 gold prizes), 2 FIDIC Project Awards, 5 Chinese Installation Star and 41 China Quality Electric Power Project Awards. We also ramped up environmental, safety and quality management. Consequently, there was no environmental incident, energy conservation and emission reduction irregularity, or workplace accident at the level of “ordinary” or higher.

In 2019, adhering to the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we will make progress while maintaining stable performance, and strive for higher-quality, more efficient, and more sustainable development. Eyeing “independent innovation, social contribution, scientific development and mutual harmony” in social responsibility efforts, we will perform our social responsibility as a central SOE and build a harmonious enterprise with government recognitions, customer satisfactions, investors' high favors, employee happiness and green consciousness to help fulfill the people's desire for a better life and build a moderately prosperous society in all respects.

关于我们

About Us



2018 年

第 333 位

《财富》世界 500 强排名
333rd among the Fortune Global 500

第 12 位

ENR 全球承包商 250 强排名
12th among the ENR Top 250 International Contractors

第 21 位

ENR 国际承包商 250 强排名
21st among the ENR Top 250 Global Contractors

第 4 位

ENR 全球工程设计公司 150 强排名
4th among the ENR Top 150 International Design Firms

第 18 位

ENR 国际工程设计公司 225 强排名
18th among the ENR Top 225 Global Design Firms

公司简介

Company Profile

中国能建成立于 2011 年 9 月 29 日，是经国务院批准、由国务院国资委直接管理的特大型能源建设集团。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公开发行 H 股在香港联合交易所主板挂牌上市（股份代码：3996.HK）。

中国能建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，是我国和世界能源建设的主力军。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，是中国乃至全球电力行业最大的综合解决方案提供商之一。自公司成立以来，累计获得国家级、省部级和行业级科学技术奖 1000 余项，改革开放 35 年百项经典暨精品工程 5 项、国家优质工程金质奖 42 项、国家优质工程（银质）奖 140 项、中国建设工程鲁班奖 14 项、中国土木工程詹天佑奖 3 项；拥有有效专利 8797 项，制定国家和行业标准 1600 余项。连续五年进入世界 500 强，在 ENR 全球承包商 250 强、国际承包商 250 强、全球工程设计公司 150 强和国际工程设计公司 225 强排名中均名列前茅，获得国际权威评级机构惠誉 A-、穆迪 A3 信用评级。

Founded on 29 September 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 19 December 2014, China Energy Engineering Corporation Limited (Energy China) was established by Energy China Group, the principal promoter, and Electric Power Planning & Engineering Institute Co., Ltd. (EPPE Company). On 10 December 2015, China Energy Engineering Corporation Limited was listed on the main board of Hong Kong Stock Exchange (Stock code: 3996. HK).

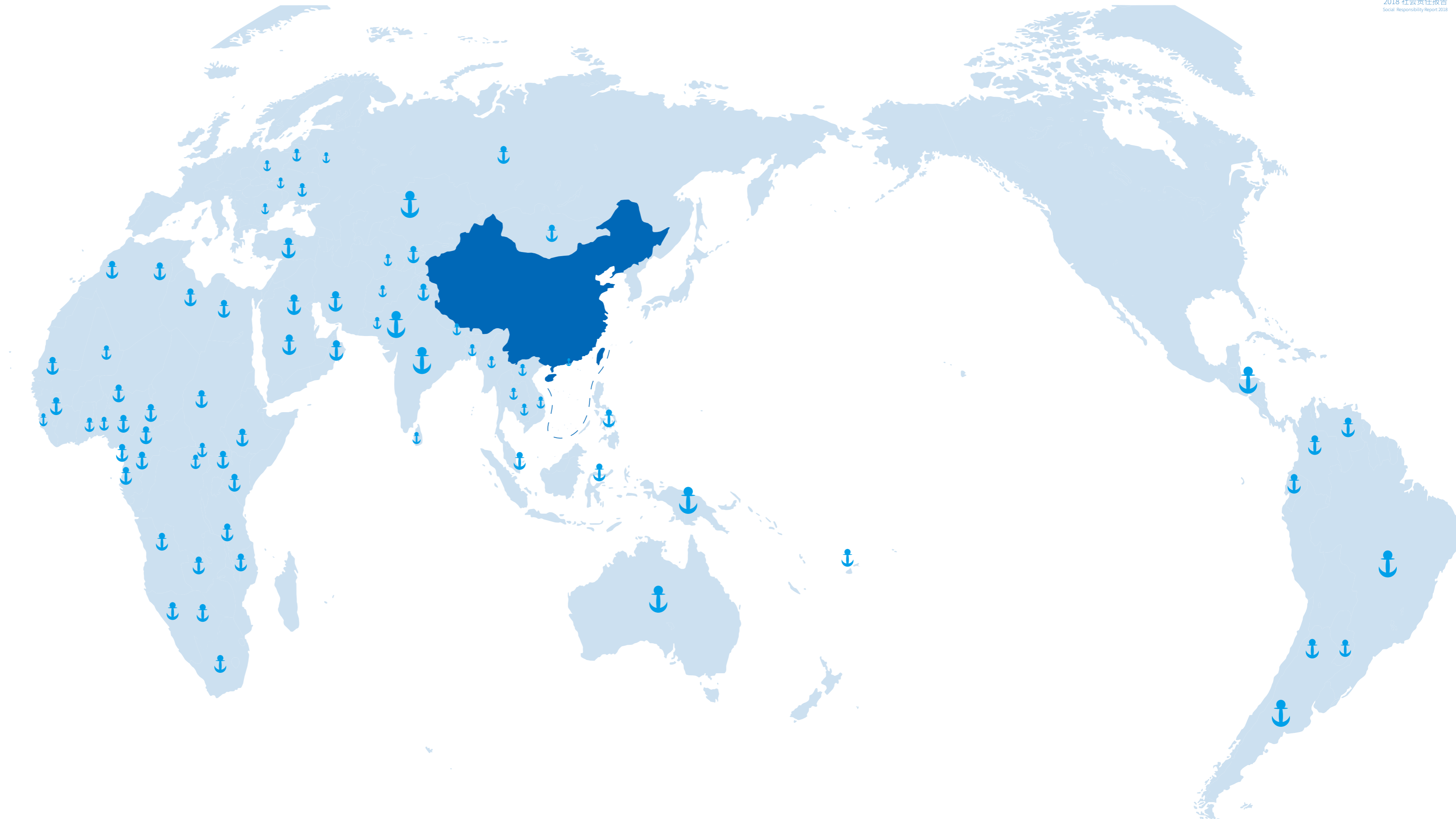
Energy China Group is a leading super-sized conglomerate that provides integrated solutions and the whole industry chain service for energy, power, infrastructure, and real estate industries of China and the whole world. It mainly specializes in energy and power, water conservancy and related business, 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. It is one of the largest comprehensive solution providers in the power industry of China and even the world. Since its establishment, Energy China Group has received over 1000 science and technology awards at the national, provincial and industrial levels, 5 reform and opening up 35 years of classics and boutique projects, 42 National Quality Project Gold Awards, 140 National Quality Project (Silver) Awards, 14 Luban Awards for Chinese Construction Projects, and 3 Tien-yow Jeme Awards for Chinese Civil Engineering Projects; it also possesses 8,797 valid patents, and has developed more than 1600 national and industrial standards. For five consecutive years, Energy China Group has been listed in the Fortune Global 500 as well as ENR Top 250 International Contractors and ENR Top 250 Global Contractors, ENR Top 150 International Design Firms, and Top 225 Global Design Firms. Fitch and Moody's credit ratings for Energy China Group stand at A- and A3 respectively.

全球业务分布

Global Presence

中国能建着力实施国际化、多元化经营，坚持优先发展国际业务战略，深度融入“一带一路”建设，科学布局海外市场，打造具有国际竞争力的工程公司。截至 2018 年底，我们在全球 80 多个国家和地区设立了 200 多个分支机构，业务遍布中国所有省区市及海外 140 多个国家和地区。

Committed to diversified, international operation, we have prioritized global business, further integrated into the Belt and Road Initiative (BRI) and rationally tapped into overseas markets to build an engineering enterprise with global competitiveness. As of the end of 2018, our business presence covered all over China and more than 140 countries and regions. We have set up over 200 overseas branches more than 80 countries and regions.



改革开放 40 年——初心能见，使命如磐

40 Years of Reform and Opening-up - Remaining True to Our Original Aspiration and Shouldering Heavy Responsibility

四十载春风化雨，四十年砥砺前行。作为中国能源电力建设的国家队和主力军，中国能建坚守报国民初心，担当央企责任使命，为国家贡献、为民生服务，与时代同行、与行业共振，不断进取创新、转型升级，在改革开放 40 年历程中写下下一个又一个辉煌篇章。

As a key player in domestic energy and power construction industry, we have remained true to our original aspiration of giving back to the nation and benefiting its people over the past 40 years of sheer endeavor. We have shouldered the responsibility as a central SOE and contributed to national development and livelihood. Keeping abreast of the times and our industry peers, we have constantly engaged in innovation, transformation and upgrading, thus writing one magnificent chapter after another in the 40-year process of reform and opening up.

电力报国，与时代同频共振

Serving the Country through Power Construction and Keeping Abreast of the Times

改革开放 40 年来，中国能建以电力报国为担当，与我国电力事业共成长，乘着改革开放的东风，凭借电建人的拼搏精神，以一项项科技创新成果和一座座至精至臻工程，助力改变我国电力能源基础薄弱和技术落后的局面，也为中国能建打造出能源建设的金字招牌。

Over the past 40 years, we have strived to serve the country through power construction. Riding the winds of reform and opening up, we have helped cement the foundation of domestic energy and power industry with a series of technological innovations and outstanding construction projects. In the meantime, we have established ourselves as a well-established brand in energy construction.

规划咨询 Planning and Consulting

中国能建凭借卓越的能源与电力规划咨询实力，完成了中国 90% 以上的电力规划研究、咨询评审和行业标准制定工作，承担了数十个国家和地区的数百项重大工程勘测设计业务，引领全球能源电力行业发展。

By dint of exceptional planning and consulting capabilities, we have undertaken over 90% of planning, research, consulting, evaluation, and industrial standards development tasks in China, along with hundreds of key survey and design projects in dozens of countries and regions, thus leading the development of global energy and power industries.

国家能源发展
"十三五"
规划研究
National Energy
Development Planning
(2016-2020)

国家电力发展
"十三五"
规划研究
National Power
Development Planning
(2016-2020)

老挝电力
规划研究
Laos Power
Planning Study

雄安新区能
源规划设想
Energy Planning for
Xiong'an New Area

所属单位电力规划设计总院着力打造“能源智囊，国家智库”，为我国能源电力的发展规划、行业管理、产业政策和行业标准等提供智库解决方案。

Positioned as a "national energy think tank", Electric Power Planning & Engineering Institute Co.,Ltd. (EPPEI) provides solutions for the planning, industry management, policy making and standards development of China's energy and power industry.

- 开展国家电力发展“十三五”规划研究、国家能源发展“十三五”规划和众多省级电力能源“十三五”规划研究，牵头完成我国首个“一带一路”国家级电力规划——老挝电力规划。
- We have developed the national and provincial energy and power development planning during the 13th Five-Year Plan period (2016-2020), and played a leading role in delivering China's first power plan for a BRI country - Laos Power Planning.
- 编制《雄安新区能源规划设想》，打造“绿色低碳、安全高效、智慧友好、引领未来”的国际一流城市能源系统典范。
- We have formulated the *Energy Planning for Xiong'an New Area*, aiming to build an exemplary world-class urban energy system which is "low-carbon and safe, efficient and smart, user-friendly and future-leading".



扫码观看视频，了解雄安新区能源规划设想
Scan the QR code to watch the video on Energy Planning for Xiong'an New Area

雄安新区能源规划 Energy Planning for Xiong'an New Area



打造“绿色低碳、安全高效、智慧友好、引领未来”的国际一流城市能源系统典范
Create a energy system model for world-class urban city, featuring green and carbon-low, safe and high-efficiency, smart and human-oriented and future-leading.

火电工程

Thermal Power Projects

中国能建拥有世界一流的火电工程设计、建设实力，可承揽全部容量等级火电工程的咨询、勘测、设计、施工等业务，致力于推进火电高效清洁绿色发展，推动中国火电达到世界先进水平。拥有国内火电 **80%** 的设计市场份额和 **60%** 的建设市场份额，负责设计和施工的百万千瓦超超临界火电机组数量居**世界首位**。

中国能建所属企业承担联合攻关、工程设计和建设的泰州电厂二期百万千瓦超超临界二次再热燃煤发电国家示范工程，创下发电效率、发电煤耗和环境指标三个“世界之最”。

The 1000MW class Ultra Supercritical Double-reheat Coal-fired Unit of Taizhou Power Plant (Phase II), a national demonstration project co-researched, designed and built by Energy China Group's subsidiary, has scored the best generation efficiency, coal consumption rate and environmental performance.



中国能建所属企业承担联合设计的石横电厂，是我国首次采用引进技术建设的30万千瓦火电机组。

Shiheng Power Plant, co-designed by Energy China Group's subsidiary, is China's first 300MW coal-fired unit based on imported technology.

Energy China Group possesses world-class capabilities of thermal power engineering design and construction. We are able to undertake consultancy, survey, design and construction of thermal power projects with different installed capacity. We are also committed to promoting efficient, clean, and green development of thermal power, and lifting China's thermal power industry to a world-leading position. In domestic thermal power market, we account for 80% of design projects and 60% of construction projects. We have designed and built the largest number of 1000MW class ultra supercritical coal-fired units in the world.



中国水利水电百年圆梦工程、大国重器——三峡工程，是世界上规模最大的水电站，中国能建所属葛洲坝集团全程参与各期工程建设，完成65%以上工程量，是三峡工程建设当之无愧的主力军。

The Three Gorges Dam Project is a "centenary project" of China and the world's largest hydropower station. China Gezhouba Group engaged in all phases of the project and undertook over 65% of the construction work. It is arguably the most important player in the project.

水电工程

Hydropower Projects

中国能建拥有世界一流的水电建设技术和较强的水电设计能力，在长江干流及金沙江、雅砻江、大渡河等流域大型水电站建设中担当主力。设计建设了国内外 **1000** 多项各类水电工程，拥有 **30%** 的国内水电施工市场份额，**50%** 的大型水电施工市场份额。

Energy China Group boasts world-class hydropower construction technology and strong hydropower design capability. We are a key player in large-scale hydropower stations construction in the Yangtze River and its tributaries (Jinsha River, Yalong River and Dadu River). We have designed and built over 1,000 hydropower projects of different types at home and abroad. In China, we own 30% of the hydropower construction market and 50% of the large-scale hydropower construction market.



中国能建所属葛洲坝集团100%自主完成工程建设的葛洲坝水利枢纽工程，是万里长江第一座水利枢纽工程，也是三峡工程的试验性工程。

China Gezhouba Group has independently completed the Gezhouba dam project, which is the first project of its kind along the Yangtze River, and the experimental project of the Three Gorges Dam Project.

核电工程

Nuclear Power Projects

中国能建拥有国内先进的核电常规岛设计技术及世界领先的核电建设技术，参与了**40**多个核电工程常规岛与核岛的勘测、设计和施工，涉及华龙一号、CPR1000、AP1000、EPR、CAP1400、第四代快堆等技术路线，拥有国内核电常规岛设计咨询**90%**的市场份额、施工**60%**的市场份额。

Energy China Group possesses sophisticated technology for conventional island design and the world's leading nuclear power construction technology. We have engaged in the survey, design and construction of over 40 conventional islands, involving Hualong One, CPR1000, AP1000, EPR, CAP1400, and Generation IV reactors. In domestic conventional island market, we have handled 90% design and consulting projects and 60% construction projects.



中国能建所属企业全程参与选址、前期方案论证、常规岛及BOP设计的秦山核电站一期工程，是我国第一座商业核电站。

Energy China Group's subsidiary engaged in site selection, proposal research, conventional island and BOP design of Qinshan Nuclear Power Plant (Phase I), China's first commercial nuclear power plant.



中国能建所属企业承担常规岛设计的福清核电站5、6号机组工程，是首批采用我国具有自主知识产权“华龙一号”三代核电技术的核电工程。

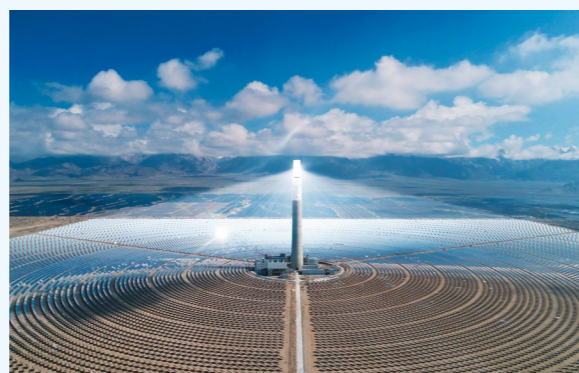
Energy China Group's subsidiary designed the conventional islands of Units No.5 and No. 6 of Fuqing Nuclear Power Plant, one of China's first nuclear projects using Hualong One technology, a domestically developed third-generation reactor design.

新能源工程

New Energy Projects

中国能建在风力发电、光伏发电、光热发电、生物质发电、地热发电和分布式能源等领域拥有世界领先的设计、建设能力，业务规模占国内市场的**50%**。

We possess the world's leading design and construction capabilities in the wind power, PV power, solar thermal power, biomass power, geothermal power and distributed energy, and own 50% of domestic market share.



中国能建所属企业负责总体设计的中控德令哈50MW熔盐塔式光热发电项目是国家第一批20个光热发电示范项目之一，也是我国第三座并网的光热发电项目。

Designed by Energy China Group's subsidiary, Supcon Solar Delingha 50MW Tower Concentrated Solar Power Plant is one of the first 20 solar thermal power generation demonstration projects and the third grid-connected solar thermal power generation project in China.



中国能建所属企业设计、建设的河北张北县国家风光储输示范电站，是世界规模最大的多类型化学储能电站，也是智能化运行水平最高、运行方式最为多样化的新能源示范工程。

Designed and built by Energy China Group's subsidiary, Zhangbei National Wind and Solar Energy Storage and Transmission Demonstration Project in Hebei Province is the world's largest multi-type chemical energy storage power station, and a new energy demonstration project featuring the most intelligent and diversified operations.

输变电工程

Power Transmission and Transformation Projects

中国能建拥有世界一流的输变电工程设计、建设技术，特超高压输变电设计业务规模占国内市场的**90%**，设计建设了代表世界最高技术水平的中国“八交十直”等特高压工程以及数十项智能电网工程，在国内输变电工程领域率先实施EPC模式，完成数百项工程项目，破解我国能源输送瓶颈。

We possess world-class design and construction technologies for power transmission and transformation. In China, we account for 90% of the ultra-high voltage power transmission and transformation design business. We have designed and built 8 UHV AC projects and 10 UHV DC projects in China representing the world's cutting-edge technology, as well as dozens of smart grid projects. Taking China's lead in applying EPC to power transmission and transformation, we have completed hundreds of projects, thus breaking China's bottleneck of energy transmission.



中国能建所属企业设计的晋东南—南阳—荆门交流特高压试验示范工程，是我国自主研发的世界首个1000千伏特高压工程，让远距离、大容量、低损耗的“西电东输”在中国成为现实。

Designed by Energy China Group's subsidiary, Southeastern Shanxi-Nanyang-Jingmen AC Ultra-high Voltage Experimental Demonstration Project is the world's first 1,000KV ultra-high voltage project independently developed by China. The project turns long-distance, large-capacity, low-loss west-east power transmission into reality.



中国能建所属企业设计建设的昌吉—古泉±1100kV特高压直流输电工程，是目前全球电压等级最高、输电容量最大、输电距离最远、技术水平最高的直流输变电工程。

Designed and built by Energy China Group's subsidiary, Changji-Guquan ±1,100kV Ultra-high Voltage DC (UHV DC) Transmission Project represents the world's highest voltage class, largest capacity, longest distance, and most advanced technology.

创新驱动，携行业同向偕行

Progressing with Peers Driven by Innovation

改革开放 40 年，中国电力能源事业取得了令世人瞩目的技术突破，这一过程始终伴随着中国能建的身影。这期间，中国能建形成了以国家电力规划研究中心和 2 个国家级企业技术中心、4 个院士专家工作站、11 个博士后科研工作站、46 个省级研究机构和 86 家高新技术企业为主体的科技创新体系，在火电、水电、核电、新能源、输变电等领域拥有众多先进核心技术，以领先的技术水平和卓越的创新服务能力服务国家战略、引领行业发展，助力企业高质量发展。

Over the past 40 years, technical breakthrough in China's power and energy sector has attracted worldwide attention. Meanwhile, we have developed a technical innovation system comprising National Electric Power Planning Research Center, 2 national enterprise technical centers, 4 academicians/expert workstations, 11 post-doctoral research workstations, 46 provincial research institutes and 86 high-tech enterprises. We have a wealth of core technologies in such areas as thermal power, hydropower, nuclear power, new energy, and power transmission. Such technologies, along with our outstanding innovation capability, have helped us implement national strategies, promote industrial progress, and seek high-quality corporate development.

在水电领域掌握多项先进核心技术

Advanced Core Technologies in the Field of Hydropower

- 高面板堆石坝施工
Construction of high concrete face rock-fill dam
- 中高水头的大型级船闸设计
Design of large medium-high-head navigation lock
- 大型河床式水电站设计
Design of large hydropower station in river channel
- 大体积混凝土特高强度快速施工
High-strength, fast construction with mass concrete
- 大体积混凝土温控与防裂施工
Temperature control and crack prevention for mass concrete
- 大江大河导流截流施工
River diversion and closure
- 大型洞室群地下工程施工
Construction in large underground cavern
- 大型水轮发电机组（70 万千瓦）快速优质安装
Fast, high-quality installation of large 700MW hydropower unit



- 集成设计的中科院电工所八达岭太阳能热发电实验电站工程，是国家“863 计划”太阳能热发电技术及系统示范重点项目、亚洲首座兆瓦级塔式光热发电项目

Designed by Energy China Group, IEE-CAS Badaling Solar Thermal Power Plant is a key demonstration project for solar thermal power technology and system under the national "863 program", and Asia's first megawatt solar thermal tower power project

- 承建的湖南黑麋峰抽水蓄能电站、江苏宜兴抽水蓄能电站工程，荣获中国建设工程鲁班奖

Built by Energy China Group, Hunan Heimifeng Pumped Storage Power Station and Jiangsu Yixing Pumped Storage Power Station have received the Luban Awards for Chinese Construction Projects

- 承建的清江水布垭水电站工程，具有世界最高的混凝土面板堆石坝

Built by Energy China Group, Qingjiang Shuibuya Hydropower Station has the world's highest concrete face rock-fill dam

- 承建的葛洲坝水利枢纽工程，荣获国家科技进步特等奖、国家优质工程金质奖

Built by Energy China Group, Gezhouba Dam project has received the Special Prize of National Science and Technology Progress Award and the National Quality Project Gold Award

- 承建的雅砻江锦屏一级水电站工程，具有世界最高双曲拱坝

Built by Energy China Group, Yalongjiang Jinping-I Hydropower Project has the world's highest double-curve arch dam

- 设计建设河北张北县国家风光储输示范工程，荣获中国工业大奖、菲迪克优秀工程奖

Designed and built by Energy China Group, Hebei Zhangbei National Wind and Solar Energy Storage and Transmission Demonstration Project has received the Chinese Industry Award and the FIDIC Award of Merit

- 承建的红水河岩滩水电站工程，荣获全国优秀工程设计金奖、中国建设工程鲁班奖

Built by Energy China Group, Hongshuihe Yantan Hydropower Station has received the National Outstanding Project Design Gold Award and the Luban Award for Chinese Construction Projects

在火电领域掌握多项先进核心技术

Advanced Core Technologies in the Field of Thermal Power

- 煤中取水高效褐煤发电
"Getting water from lignite" technology for efficient power generation
- 大型火电机组空冷
Large capacity coal-fired air-cooling unit
- 百万千瓦超超临界火电机组
1000MW class ultra-supercritical Thermal Power Generating Unit
- 100 万千瓦二次再热高效清洁燃煤发电
1000MW class double reheat clean and high efficiency coal-fired power generation
- 燃煤电厂烟气污染物控制
Coal-fired power plant flue gas pollutant control
- 三维电厂设计
3D design for power plant
- 大型循环流化床发电
Large capacity circulating fluidized bed power generation
- 620°C /100 万千瓦高效一次再热超超临界发电
620°C/1000MW class high efficiency single reheat ultra-supercritical power generation

在输变电工程领域

Power Transmission and Transformation Construction

我们掌握全球最先进的特高压输变电工程技术，完成了 ±1100 千伏特高压直流输电设计关键技术、柔性交流输电设计技术、主动配电网规划设计相关领域关键技术，能够承担世界上电压等级最高、输电容量最大、输电距离最远、技术水平最高的直流输变电工程。

We possess the world's cutting-edge extra-high voltage power transmission and transformation technology, and have developed key technologies for ±1,100KV UHV DC power transmission design, flexible AC power transmission design, and active distribution network planning and design. We are able to undertake DC power transmission projects representing the world's highest voltage class, largest capacity, longest distance, and most advanced technology.

截至 2018 年底

By the end of 2018

42

中国能建累计获得国家科学技术进步奖（项）
We received 42 National Science and Technology Progress Awards

4

特等奖（项）
4 special prizes

9

一等奖（项）
9 first prizes

22

二等奖（项）
22 second prizes

7

三等奖（项）
7 third prizes

14

中国建筑工程鲁班奖（项）
14 Luban Awards for Chinese Construction Projects

42

国家优质工程金质奖（项）
42 National Quality Project Gold Awards

1600

省部级和行业级科学技术奖余（项）
Over 1,600 provincial, ministerial and industrial science and technology awards



- 设计建设的我国首个百万千瓦超超临界燃煤发电工程——玉环电厂，荣获国家优质工程金质奖、电力勘察设计协会设计一等奖、国家级设计金奖、国家科技进步奖一等奖。

Designed and built by Energy China Group, Yuhuan Power Plant, China's first 1000MW class ultra supercritical coal-fired unit, has received the National Quality Project Gold Award, First Prize on Design of China Exploration & Design Association, National Design Gold Award, and First Prize of National Science and Technology Progress Award

- 台山电厂工程荣获全国优秀工程设计金奖、中国建设工程鲁班奖。Taishan Power Plant has received the National Outstanding Project Design Gold Award and the Luban Award for Chinese Construction Projects

- 泰州电厂二期国家示范工程、台州第二发电厂工程荣获国家优质工程金质奖。

Taizhou Power Plant (Phase II), a national demonstration project, and Taizhou No.2 Power Plant have received the National Quality Project Gold Awards



- 设计研发特高压交流输电关键技术、成套设备及工程应用，荣获国家科技进步特等奖，破解我国能源输送瓶颈

Designed and developed by Energy China Group, the key technologies, integrated equipment and engineering applications for UHV AC power transmission have received the Special Prize of National Science and Technology Progress Award. They have broken China's bottleneck of energy supply

- 设计研发特高压 ±800KV 直流输电工程，获得国家科技进步特等奖，创造 37 项世界第一，完成关键技术研究 141 项，是世界电力工业发展史上的重要里程碑

Designed and developed by Energy China Group, the ultra-high ±800KV DC power transmission project has received the Special Prize of National Science and Technology Progress Award. The project has scored 37 "world's firsts" and conducted research on 141 key technologies. It is a milestone in the world history of power industry

改革转型，助企业升级发展

Upgrading and Development through Reform and Transformation

中国能建深入贯彻落实党中央、国务院和国务院国资委深化国有企业改革精神，聚焦改革重点，突破改革难点，扎实将改革向纵深推进，积极拓展新的业务领域，业务转型不断取得新突破，持续提升自主创新能力，以改革转型助推企业升级发展。

Following the guidelines of the CPC Central Committee, the State Council and the SASAC on State-owned enterprise reform, we have focused on key reform points and overcome barriers, pushing ahead with the reform. We have tapped into new areas, broken new grounds on business restructuring, constantly improved our capability of indigenous innovation, and promoted corporate upgrading and development through reform and transformation.

持续深化改革

Deepening Reform

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，持续推进管理层级压减、组织结构调整、处僵治困、剥离企业办社会职能、混合所有制等企业改革，探索可持续发展路径，提升企业发展活力。

Following the guidelines of the CPC Central Committee and the State Council on “Five Priority Tasks (Cutting overcapacity, De-stocking, Deleveraging, Reducing costs and Identifying growth areas)” and deepening supply-side structural reform, we have constantly reduced management hierarchy and adjusted organizational structure, promoted the disposal of zombie companies, relieved ourselves of the obligations to operate social programs, proceeded with mixed-ownership reform, explored paths to sustainable development, and fired our companies with new vigor.

全面深化改革

Comprehensively Deepening Reform



组织结构调整及管理层级压减

Adjusting organizational structure and reducing management levels

压缩管理层级、减少法人单位，累计减少法人单位 133 户，企业管理层级控制在 5 级以内

Reducing management levels and business entities, and reducing 133 entities and limiting management hierarchy to five



“处僵治困”

Promoting the disposal of zombie and struggling companies

开展业务及组织结构调整重组，采取强化管理提升、带动“僵尸企业”和特困企业转型升级和创新发展，持续推进降本增效，提高企业内部管理水平，妥善做好人员分流安置

Through business and organizational restructuring and management improvement, we have assisted zombie and struggling companies with transformation, upgrading, and innovative development. We have moved ahead with cost reduction and efficiency increase, enhanced corporate management and resettled laid-off workers



混合所有制改革、国企改革“双百行动”

Proceeding with mixed-ownership reform and the “SOE and Central SOE Reform Action”

积极推进混合所有制改革和国企改革“双百行动”试点工作，鼓励有条件的企业进行股权多元化与混合所有制改革
We have proceeded with mixed-ownership reform and the “SOE and Central SOE Reform Action”

组织结构调整及管理层级压减

Adjusting Organizational Structure and Reducing Management Hierarchy

我们积极推进压缩管理层级、减少企业法人工作。截至 2018 年底，累计减少企业法人 133 户，管理层级控制在 5 级以内，圆满实现管理层级压减改革目标。

We are proactively reducing management hierarchy and business entities. As of the end of 2018, we reduced 133 entities and limited management hierarchy to five.

- 2011 年 9 月，中国能源建设集团有限公司正式成立，由原中国葛洲坝集团公司、中国电力工程顾问集团公司和国家电网公司、南方电网公司所属 15 个省（市、区）的电力勘测设计、工程建设和装备制造企业组建而成。
- 2014 年 12 月，中国能建与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，股份公司于 2015 年 12 月在香港联合交易所主板挂牌上市。
- 2018 年，新设（重组）规划设计集团、北方建投、华东建投、南方建投、西北建投、国际公司、投资公司、工程咨询公司等 8 家公司。

- In September 2011, China Energy Engineering Group Co., Ltd. was officially incorporated by China Gezhouba Group, China Power Engineering Consulting Group Co., Ltd., as well as the power survey, design, engineering and equipment manufacturing companies under State Grid Corporation of China and China Southern Power Grid in 15 provinces and municipalities and autonomous regions.
- In December 2014, China Energy Engineering Corporation Limited was incorporated by Energy China Group and its wholly-owned subsidiary EPPEI. In December 2015, the new company was listed on the main board of Hong Kong Stock Exchange.
- In 2018, we established/reincorporated 8 companies, namely China Energy Engineering Group Planning and Engineering Co., Ltd., China Energy Engineering Group Northern Construction and Investment Co., Ltd., China Energy Engineering Group Eastern Construction & Investment Co., Ltd., China Energy Engineering Group Southern Construction & Investment Co., Ltd., China Energy Engineering Group Northwest Construction & Investment Co., Ltd., China Energy Engineering Group International Co., Ltd., China Energy Engineering Group Investment Co., Ltd., and China Power Construction Engineering Consulting Co., Ltd.

“处僵治困”

Promoting the Disposal of Zombie and Struggling Companies

我们全力攻坚“处僵治困”工作，开展业务及组织结构调整重组，带动“僵尸企业”与特困企业转型升级和创新发展，持续推进降本增效，提高企业内部管理水平，妥善做好人员分流安置。2018 年，扣除年度人员安置成本，公司所属“僵尸企业”和特困企业整体扭亏为盈。

We have spared effort to promote the disposal of zombie and struggling companies. Through business and organizational restructuring, we have assisted these companies with transformation, upgrading, and innovative development, helping them move ahead with cost reduction and efficiency increase, enhance corporate management and resettle laid-off employees. In 2018, zombies companies and companies in dire straits under Energy China Group swung back to profitability across the board, after deducting annual staffing costs.

混合所有制改革、国企改革“双百行动”

Proceeding with Mixed-Ownership Reform and the “SOE and Central SOE Reform Action”

我们积极推进混合所有制改革和国企改革“双百行动”试点工作。鼓励有条件的企业进行股权多元化与混合所有制改革，所属企业江苏省电力建设第一工程有限公司、湖南电力设计院有限公司成为国家第三批混改试点企业，混合所有制改革全面稳步推进。湖南电力设计院有限公司、中国葛洲坝集团绿园科技有限公司、中国能建安徽电建二公司等 3 家企业被列入国企改革“双百行动”试点，努力打造国企改革样板。

We have proceeded with mixed-ownership reform and the pilot program of “SOE and Central SOE Reform Action” to select top 100 central SOE subsidiaries and top 100 local mainstay SOEs under the leadership of the SASAC. China Energy Engineering Group Jiangsu No. 1 Electric Power Construction Co., Ltd. and Hunan Electric Power Design Institute Co., Ltd. are among the third group of domestic enterprises to pilot mixed-ownership reform. Hunan Electric Power Design Institute, China Gezhouba Group Lvyuan Technology Co., Ltd., and Anhui No.2 Electric Power Construction Co., Ltd. are listed in the pilot companies of “SOE and Central SOE Reform Action”, striving to provide a template of SOE reform.

加快业务转型

Accelerating Business Transformation

作为我国能源电力建设的主力军，中国能建在深耕传统电力能源市场的同时，充分发挥全产业链优势和综合服务能力，积极拓展非电工程、环保水务、工业制造等业务领域，打造可持续发展新引擎，向着多元化发展目标持续稳步迈进。

非电工程建设业务

Non-Electrical Engineering

加强与地方政府、金融企业和社会投资机构合作，以 PPP 等模式参与数千项现代基础设施项目的建设与投资，涵盖智慧城市、综合管廊等基础设施建设工程，非电工程业务比重持续提升。



贵州平塘射电望远镜项目
FAST Radio Telescope in Pingtang County, Guizhou

As a key player in domestic energy and power construction, we have leveraged our comprehensive services and ability to integrate the entire industry chain while further tapping into traditional power and energy market. We have expanded our business scope to non-electrical engineering, environment-friendly water business, and industrial manufacturing, aiming to develop new drivers of sustainable development and march on towards diversification.

We have enhanced cooperation with local governments, financial enterprises and social investment institutions. By means of PPP mode, we have invested in the construction of thousands of modern infrastructure projects, covering smart city and utility tunnel etc. The proportion of non-electrical engineering in our business continues in the uptrend.



昆明长水国际机场
Kunming Changshui International Airport

环保水务业务

Environment Protection and Water Treatment Business

开展环保水务业务，专注污水污泥处理、固废处理、水源和水网建设、再生资源回收利用等领域，提供环保和水务综合治理解决方案。

We provide solutions to environmental protection and comprehensive water treatment. Our water business focuses on sewage and sludge treatment, solid waste treatment, water sources and water network building, and resource recycling.



武汉青山海绵城市工程
Wuhan Qingshan Sponge City



昆明滇池污水处理项目
Kunming Dianchi sewage treatment project

工业制造业务

Industrial Manufacturing

坚持联动发展、转型升级、做强做优，开展水泥生产、民用爆破和装备制造等业务，进一步提升在目标区域及细分市场的竞争优势。

Committed to coordinated development, transformation and upgrading, we have engaged in cement production, civil explosives and equipment manufacturing, aiming to further sharpen our edge in target markets and segments.



现代化炸药生产
Modernized explosive production



葛洲坝石门特种水泥公司
Gezhouba Shimen Specialty Cement Company



多能互补与智能微电网解决方案
The solutions of multi-complementary and smart microgrid

四十载不忘初心、铸就辉煌，新时代风满悬帆、奋楫逐浪。中国能建将以深化改革激发业务发展动力，以持续创新挖掘公司潜力，与利益相关方互利共赢，持续推进国际化、多元化发展，在高质量发展之路上扎实奋进。

As we have remained true to our original aspiration in the past 40 years, we will build on our success and keep riding the waves in the new era. We will deepen reform to boost our business, tap into our potential through constant innovation, create a win-win situation with stakeholders, press ahead with diversification and internationalization, and take firmer steps towards the high-quality development.

能者善建，共绘“一带一路”工笔画

Jointly Charting the Future of BRI

“一带一路”是我国参与全球开放合作、促进全球共同发展繁荣、推动构建人类命运共同体的中国方案。中国能建秉持共商、共建、共享原则，将自身发展深度融入“一带一路”建设，开创发展新机遇，谋求发展新动力，拓展发展新空间，精心绘制精谨细腻的“一带一路”工笔画。

“一带一路”倡议提出五年来，中国能建扎根“一带一路”沿线国家和地区，构筑起多元业务协同发展的国际业务格局。五年多的耕耘，中国能建国际业务覆盖“一带一路”沿线62个国家和地区，各类在建及待建项目超过700个，合同总额超过3000亿元，电力工程项目签约额占中国电力境外签约额的比例超过三分之一，成为“一带一路”建设的排头兵和主力军。

The BRI is a Chinese solution to engage in open cooperation with other countries, improve the global economic governance system, promote common development and prosperity of the world, and build a community of shared future for mankind. Following the principle of achieving shared growth through discussion and collaboration, Energy China Group has fully integrated business growth with BRI projects. We have explored new opportunities, developed new drivers, and expanded room for development, thus carefully charting the future of BRI.

Since the BRI was proposed five years ago, we have struck root in BRI countries and regions, realizing coordinated development of diversified business in international markets. To be specific, over the past five years we have expanded our business to 62 BRI countries and regions; over 700 of our BRI projects, worth more than RMB 300 billion, are under way or about to start; contract value of our overseas power projects accounts for over one-third of China's total. Indeed we are a pioneer and key player of BRI projects.

能建方案规划发展蓝图

Plans and Blueprints for Energy Construction

中国能建发挥规划、设计、施工和投资运营一体化优势，整合国际优势资源，为“一带一路”上的能源电力建设提供全方位、综合性解决方案。作为我国电力规划研究、咨询评审和行业标准制定的国家队，我们牵头完成了“一带一路”能源合作专项规划等10多个国家能源合作规划，为国际能源合作和“一带一路”上的能源互通贡献能建技术、能建方案、能建智慧。

Unleashing our advantages in integrating planning, design, construction, investment and operations, we have pooled attractive international resources and provided omnidirectional solutions to energy and power construction in BRI countries. As China's leader in power planning, research, consulting, evaluation, and industrial standards development, we have played a prominent role in preparing energy cooperation plans (e.g. BRI Energy Cooperation Special Planning) for a dozen countries. In so doing, we have contributed our technology, solutions and wisdom to international energy cooperation and energy connectivity between BRI countries.

CASE 案例

牵头完成首个“一带一路”国家级电力规划

Playing a leading role in delivering China's first power plan for a BRI country

2018年3月，中国能建协助“一带一路”国家编制的首个国家级电力规划——《老挝电力规划研究》顺利通过评审验收。该规划全面梳理了老挝能源电力工业发展基本情况，分析了老挝未来电力市场增长及外送电需求，提出了近期及中长期老挝电源、电网建设以及与周边国家互联规划方案，为老挝电力工业发展提供了系统全面的解决方案，助力打造“一带一路”样板工程，加深中老双边合作，带动我国与周边国家开展更广泛的能源合作。

March 2018 saw the adoption of *Laos Power Planning*, the first national power plan of a BRI country. Jointly prepared by Energy China Group, the plan unveils the basics of the energy and power industries of Laos, analyzes the country's future needs for power market growth and power supply, puts forward short-, medium- and long-term proposals for power and grid construction in Laos and power connectivity with neighboring countries, and provides holistic, systematic solutions to power industry development of Laos. It helps to build exemplary BRI projects, bringing China closer energy cooperation with Laos and other neighbors.



中国的专家真是比老挝人还了解老挝。

Chinese experts know more about Laos than Laotians.

——老挝能矿部副部长英塔冯

—Thongphath Inthavong, Vice Minister of Energy and Mines, Laos



- “一带一路”能源合作专项规划
BRI Energy Cooperation Special Planning

- 老挝电力规划
Laos Power Planning

- 周边国家电力互联互通规划
Power Connectivity Planning for Neighboring Countries

- 东北亚能源合作规划研究
Northeast Asia Energy Cooperation Planning

- “一带一路”重点国家电力市场研究
Research on power markets of major BRI countries

- 能源宪章条约现代化相关问题研究
Research on issues concerning the modernization of the Energy Charter Treaty

- 中俄、中蒙、中菲、中越、中苏丹、中国-中东欧等能源合作规划研究
Energy Cooperation Planning between China and Russia, Mongolia, Philippines, Vietnam, Sudan, and Central and Eastern Europe

- 孟中印缅国家电力市场及联网潜力研究
Research on the power markets of Bangladesh, China, India and Myanmar, and the possibility of connecting the power grids of the four countries

- 中欧能源企业孵化器创新合作研究
Research on China-Europe innovative cooperation on energy company incubators

- 澜沧江—湄公河电力互联互通合作项目等区域性研究
Research on Lancang-Mekong River power connectivity cooperation and other regional projects

- 能源类国际组织现况分析及中国参与策略研究
Research on the status quo of international energy organizations and the strategic role China is supposed to play

开展的国际能源合作规划研究
Plans and research on international energy cooperation



精品工程打造能建品牌

Building Our Brand through Outstanding Projects

作为中央企业国际化发展的探路者和先行者，中国能建在“一带一路”建设中，持续提升国际化发展能力，强化国际市场开发质量和效率，按照可持续的原则推动项目高质量落地，实现中国能建在海外的跨越式发展，在国际舞台上展示“世界能源、中国能建”的风采，践行“行业领先、世界一流”的诺言，树立负责任的中国企业形象。

As a pioneer in the internationalization of Central SOEs, we have constantly built our capacity in the course of BRI projects, enhanced the quality and efficiency of international market development, promoted high quality project implementation in the principle of sustainability so as to leap-frog development overseas. Adhering to the strategic vision of becoming a "World-class Industrial Leader", and the mission of "Bringing Energy to the World", we have established ourselves as a responsible Chinese enterprise.



CASE 案例

“华龙一号”海外的首堆工程——巴基斯坦卡拉奇核电站 Hualong One's First Reactor Overseas - Karachi Nuclear Power Plant

巴基斯坦卡拉奇核电站 K-2/K-3 机组是中国具有自主知识产权的三代核电技术“华龙一号”在海外的首堆工程，也是巴基斯坦国内目前最大的核电项目。中国能建所属江苏省电力建设第三工程公司承担卡拉奇核电建设业务，在项目管理中编制《核安全文化推进实施方案》，组织制定质保大纲、HSE 管理大纲、管理程序 66 份、工作程序 165 份，修订升版管理程序 9 份、工作程序 41 份，覆盖施工全环节、全过程，有效提升集团海外核电项目管理规划化水平。

K-2/K-3 units of Karachi Nuclear Power Plant, Pakistan's largest nuclear power project, marks Hualong One's first reactor overseas, with China's patented Generation III nuclear power technology. The project has been undertaken by China Energy Engineering Group Jiangsu No. 3 Electric Power Construction Co., Ltd., which has prepared the *Plan for Promoting the Nuclear Security Culture*; organized the development of Quality Guarantee Outlines, HSE Management Outlines, 66 management procedures and 165 working procedures; and upgraded 9 management procedures and 41 working procedures. Covering the entire construction process, these documents have effectively improved our planning capability of overseas nuclear project management.

CASE 案例

中国能建华东电力设计院签订全球最大光热发电项目勘察设计合同

East China Electric Power Design Institute Co., Ltd. signs the survey and design service contract for the world's largest solar thermal power project

2018 年 5 月 30 日，中国能建华东电力设计院签订迪拜太阳能园区第四期 700 兆瓦光热发电项目勘察设计服务合同，该项目是目前世界上投资规模最大、装机容量最大、熔盐罐储热量最大的光热项目，华东院将为此项目配备顶级人力资源和提供强大技术支持，力争把该项目打造成具有国际影响力的标杆项目。

On May 30, 2018, East China Electric Power Design Institute Co., Ltd. signed the survey and design service contract for the 700MW solar thermal power project of Dubai Mohammed bin Rashid Al Maktoum Solar Park (Phase IV). The project stays ahead of its global peers by investment, installed capacity, and molten salt thermal storage. The institute will provide the best human resources and robust technical support, striving to build an exemplary project with international influence.



扫一扫，请查看“中国能建广东火电工程登上央视大型纪录片《一带一路》”

Scan QR code to watch the clip of the CCTV documentary "Belt and Road" about Guangdong Power Engineering Co., Ltd.

海外履责共建美好家园

Jointly Building a Better Homeland through CSR Performance Overseas

“一带一路”是共同发展之路，是合作共赢之路。中国能建在“一带一路”建设中主动履行海外社会责任，注重员工属地化培养，加大本地化采购，加强环境保护和资源节约，加强海外社区沟通，改善当地居民生活条件，为当地创造更大的经济、环境、社会综合价值，与利益相关方一起共建美好家园，树立起一座座中外友谊丰碑。

The BRI is a path to common development and win-win cooperation. We have proactively performed our social responsibility in BRI projects by training local employees, enhancing localized procurement, ramping up environmental protection and resource conservation, promoting communication with overseas communities, improving the living conditions of locals, creating greater economic, environmental and social value, jointly building a better homeland with stakeholders, thus having erected one monument to bilateral friendship after another.

加大本地采购

Enhancing localized procurement

中国能建有效利用当地资源，加大本地化采购，施工所需的材料、机具等尽可能在本地采购，带动当地市场经济发展并增加商业收入。越南永新一期项目为当地带来价值 13 亿元人民币的采购、分包业务，采用当地采购、服务和工程分包商约 40 家，促进当地经济发展。

We have made effective use of local resources, buying as many local materials, machines and tools as necessary. In so doing, we have boosted local economy and business turnover. Vinh Tan-1 project (Vietnam) brought procurement and sub-contracting business worth RMB 1.3 billion to the local market. It partnered with some 40 local suppliers, service providers and sub-contractors.

带动当地就业

Boosting local employment

中国能建在海外项目中，注重本地化就业，帮助海外培养电力、能源、工程方面的人才，为当地注入人才力量。安哥拉凯凯水电站在建设高峰期，为当地带来近万个就业机会，电站建成后还将为当地培养一批专业的电站运营管理和技术人才。

In our overseas projects, we have boosted local employment and fostered talents in power, energy and engineering. During its peak, Caculo Cabaca Hydropower Plant (Angola) brought tens of thousands of jobs to locals. After its completion, the plant will foster a number of operations, management and technical talents.

加强环境保护

Ramping up environmental protection

中国能建在项目建设过程中注重保护当地环境，最大限度地减少项目建设运营对当地生态环境的影响。在阿根廷孔拉水电站建设中，为避免电站对当地水源地和生态造成影响，设计上降低了水库蓄水高度，设计保留了鱼道、生态放水底孔等，严格执行生态保护要求。

We focus on environmental protection and have minimized the environmental impact of our projects. During the construction of CC/LB hydropower plants (Argentina), we have lowered the designed water height of reservoirs and retained the fishway and bottom outlets, so as to prevent damage to local water source and ecology.

带动当地发展

Driving local development

中国能建以一项项精品工程 and 高质量服务，为当地经济社会发展注入源源不断的动力。我们建设的巴基斯坦胡布 2 台 66 万千瓦燃煤发电项目 1 号机组顺利并网发电，项目全部建成后每年可以提供 90 亿千瓦时电力，满足 400 万巴基斯坦家庭的用电需求，极大改善当地经济社会发展条件。

By dint of quality projects and services, we have provided a constant supply of impetuses for local socioeconomic development. The 2x660MW HUBCO No.1 coal-fired unit (Pakistan) has been successfully connected to the power grid. After completion, the project will generate power of 9 billion KWh each year, satisfying the power demand of 4 million local households.

精准扶贫同发展，小康路上共逐梦

Targeted Poverty Alleviation - Our Approach to Jointly Building a Moderately Prosperous Society and Pursuing the Chinese Dream

精准扶贫是全面建成小康社会的重要保障，是实现人民对美好生活向往的必然要求。中国能建坚决贯彻落实党中央、国务院和国务院国资委关于脱贫攻坚的决策部署，始终将定点扶贫作为公司的政治任务扛在肩上，咬定目标、真抓实干，坚定不移服务脱贫攻坚，为决胜全面建成小康社会贡献能建力量。

2018年，中国能建向广西西林县、陕西镇巴县两个对口扶贫县投入帮扶资金1121万元，开展消费扶贫购买当地农产品1230万元，实施了一大批惠及民生的基础设施和产业扶贫项目，有效缓解当地缺教育、缺资金和缺基建等问题。在集团公司的努力下，镇巴县贫困发生率由2017年的19.41%下降至8.9%，西林县贫困发生率由2017年的9.6%下降至2.38%，脱贫工作取得决定性进展。

Targeted poverty alleviation is a key guarantee of building a moderately prosperous society in all respects and fulfilling people's aspirations to live a better life. Following the guidelines of the CPC Central Committee, the State Council and the SASAC on poverty alleviation, we have consistently seen targeted poverty alleviation as our political mission, and resolutely strived for it.

In 2018, we granted poverty alleviation funds of RMB 11.21 million to Xilin County of Guangxi and Zhenba County of Shaanxi, purchased local agro-products worth RMB 12.3 million, and implemented a large number of industrial projects to boost people's livelihood, thus quenching the thirst for education, funds, and infrastructure. With the help of Energy China Group, the head count ratio of Zhenba County dropped from 19.41% in 2017 to 8.9% in 2018, and that of Xilin County from 9.6% in 2017 to 2.38%. These figures mark a decisive progress in poverty alleviation.

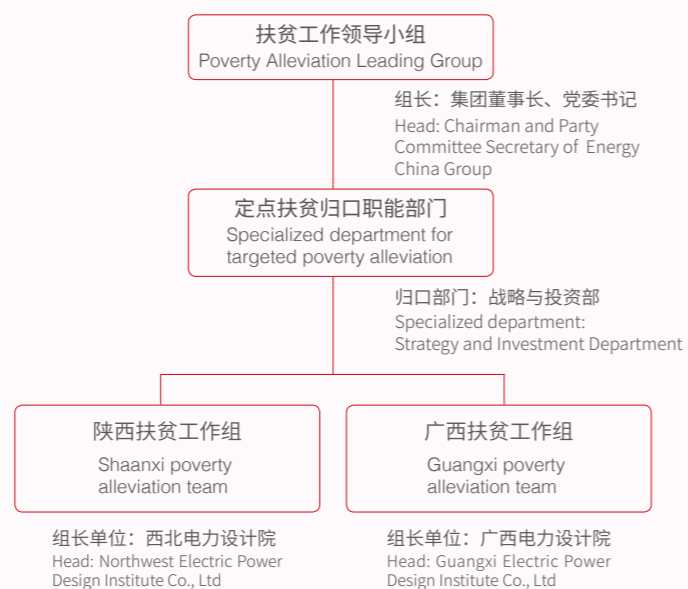
加强组织领导

Enhancing Organization and Leadership

中国能建建立“总部管总，工作组主抓，所属企业和员工共同参与”的上下联动扶贫机制，集团董事长、党委书记担任定点扶贫工作领导小组组长，研究和部署定点扶贫工作；制定《定点扶贫调查研究工作细则》《定点扶贫信息报送工作细则》《定点扶贫工作考核办法》《扶贫领域的作风问题专项治理实施方案》等相关制度，确保扶贫工作有章可依、落实到位。

We have established a top-down poverty alleviation system which is "led by the headquarters, managed by working groups, and run by companies and employees". The Chairman and Party Committee Secretary of Energy China Group doubles as the Head of the Poverty Alleviation Leading Group. He is responsible for researching and arranging targeted poverty alleviation. So far, we have issued a number of rules concerned, including the *Detailed Rules on Targeted Poverty Alleviation Survey*, the *Detailed Rules on Submitting Information on Targeted Poverty Alleviation*, the *Measures for Targeted Poverty Alleviation Assessment*, and the *Plan for Rectifying Poverty Alleviation Work Style*.

2018年11月13日至14日，集团党委书记、董事长汪建平带队到广西西林县考察调研扶贫工作
From November 13 to 14, 2018, Wang Jianping, Chairman and Party Committee Secretary of Energy China Group, led a poverty alleviation survey team to Xilin County, Guangxi.



选派精兵强将

Appointing Talents to Local Posts

中国能建为贫困地区提供充足的人力和智力支持，最大限度贡献脱贫攻坚。选派优秀领导干部赴贫困地区挂职，提升扶贫能力和工作水平，分别向广西西林县、陕西镇巴县各选派1名挂职干部和1名村第一书记，同时分别选派驻村工作队，全方位切实保证扶贫工作落实。

We have provided ample manpower and intellectual support for poverty-stricken areas. We have appointed one official and one first secretary to Xilin County and Zhenba County respectively, and set up village working party to ensure full implementation of poverty alleviation tasks.

 <p>挂职干部 Officials who serve temporary positions</p> <p>主要负责对接集团对口结对帮扶、扶贫包联工作，协助负责危房改造、改厨改厕、住房面积不达标等脱贫攻坚相关工作 Mainly responsible for counterpart aid and poverty alleviation; helping with dilapidated housing transformation, kitchen and toilet renovation, and increasing in living space</p>	 <p>第一书记 First Secretary</p> <p>主要负责走村入户，走访调研，赴扶贫一线深入了解贫困村、贫困户整体情况和具体情况，为脱贫攻坚计划提供实际支持 Mainly responsible for on-site survey at poverty-stricken villages and households in support of our poverty alleviation program</p>	 <p>驻村工作队 Village Working Team</p> <p>除按规定选派扶贫干部外，在广西西林县和陕西镇巴县分别派出工作队，加大贫困地区的帮扶力度 In addition to selecting officials according to regulations, we have sent two village working teams to Xilin County and Zhenba County to help with poverty alleviation</p>
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扶贫干部是扶贫工作的先锋，在工作中力求实效，用脚丈量、用心思量，带动贫困地区走上脱贫致富之路。2018年，扶贫干部李峻峰获得“陕西省助力脱贫攻坚竞赛先进个人”和汉中市政府授予的“脱贫攻坚先进个人”称号；姜小波获得镇巴县委县政府授予的“脱贫攻坚先进个人”称号；镇巴县东院社区获得汉中市授予的“脱贫攻坚先进集体”荣誉称号。

Our officials have played a pioneering role in leading poverty-stricken areas to prosperity. In 2018, Li Junfeng was named an "Outstanding Individual in Poverty Alleviation" in Hanzhong and Shaanxi; Jiang Xiaobo was honored as "Outstanding Individual in Poverty Alleviation" in Zhenba; and Dongyuan Community of Zhenba an "Outstanding Entity in Poverty Alleviation" in Hanzhong.

多元措施并举

Adopting Multiple Measures

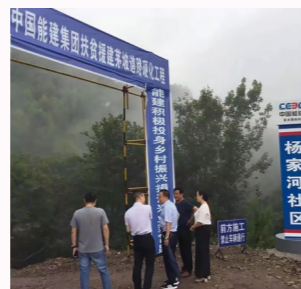
中国能建的两个对口扶贫县交通不便、教育落后、产业不发达、信息不畅通，我们多次组织调研，了解当地实际需求，从基础设施建设、产业发展、教育援助、引进资源等方面帮助困难群众脱贫致富，共同迈向小康社会。

Xilin County and Zhenba County lack information and transport access, and fall behind in education and industry levels. After frequent surveys on local realities, we started to help needy locals out of poverty through infrastructure construction, industrial development, education and resource support, in an effort to jointly build a moderately prosperous society.

改善基础设施，便利群众生产生活 Improving Infrastructure to Facilitate Work and Life

基础设施是经济发展的基础。面对贫困地区基础设施不健全导致产业难以发展的实际，我们主动发挥集团在交通、能源领域的规划建设优势，帮助贫困地区完善基础设施建设。

Infrastructure is the foundation of economic development. Since the lack and backwardness of infrastructure is arresting industrial development in poverty-stricken areas, we have unleashed our advantages to build transport and energy infrastructure in these areas.



道路硬化
Road hardening



光伏发电
PV power generation

综合整治方面：在镇巴县开展的 4 处人畜饮水工程项目竣工投用；在镇巴县仁村镇东院社区、西林县足别乡等开展综合整治工作，改善村庄面貌和农村生产生活条件；帮助西林县央龙村实施危房改造，有效解决当地群众的稳固住房问题。

Comprehensive improvement: Our four human and livestock drinking water projects in Zhenba County have come into operation. Comprehensive improvement tasks at Dongyuan Community, Rencun Town, Zhenba County and Zubie Township, Xilin County have brought a new look of the villages and improved work and living conditions. Our dilapidated housing transformation projects in Yanglong Village, Xilin County have also benefited locals a lot.

道路交通方面：预计投资约 274 亿元建设全长约 198 公里的田林-西林高速公路，实施后将极大改善西林交通，促进当地经济社会发展。

Transport: We will invest an estimated RMB 27.4 billion in building a 198km expressway from Tianlin County to Xilin County. The road, after completion, will greatly enhance the accessibility of Xilin County, and in turn give a boost to local socioeconomic development.

电力设施方面：帮助西林县开展风电资源全面规划，投入 450 万元支持镇巴县开展 5MW 集中式光伏电站项目，为仁村镇 300 千瓦屋顶光伏电站提供勘察设计服务。

Power: We have assisted Xilin County with overall wind power planning. We have also invested RMB 4.5 million in the 5MW centralized PV plant in Zhenba County, and provided survey and design services for the 300KW rooftop solar plant in Rencun Town.

大力支持教育，阻断贫困代际传递 Supporting Education to Stop Intergenerational Transmission of Poverty

我们从完善教育设施、设立教育资金、改善教育环境等方面，帮助困难家庭学生继续接受教育，用知识改变命运。2018 年，在镇巴县投入 100 万元设立“中国能建镇巴教育扶贫资金”，资助学生 682 人，使用专项资金 53.75 万元，有效防止因贫辍学现象；投入 35 万元用于镇巴职业中学“人人技能工程”项目，帮助改善学校实训场所和培训条件。

By improving educational facilities, setting up education funds and ameliorating the learning environment, we have helped students from poverty-stricken families to change their destiny with knowledge. In 2018, we invested RMB 1 million in establishing the Energy China Group Zhenba Education Poverty Alleviation Fund. So far, the fund has granted RMB 537,500 to 682 students, preventing them from dropping out of school for financial reasons; it has also invested RMB 350,000 in the “Skills for All” program of Zhenba Vocational High School, helping to improve the training and teaching facilities.

CASE 案例

**用知识建设美丽家乡
Empowering a better homeland through knowledge**

2018 年 8 月 20 至 24 日，中国能建组织定点扶贫地区的 10 名优秀贫困学生代表来北京游学，学习电力知识，感受北京文化底蕴，参观中国科技馆、高等院校等，勉励同学们好好学习，立志成才，用知识摆脱贫困，为家乡建设做贡献。

From August 20 to August 24, 2018, at Energy China Group's invitation, ten outstanding students from poverty-stricken areas conducted a study tour around Beijing. They learned power knowledge, experienced the cultural atmosphere of the capital city, and visited China Science and Technology Museum and local universities. The students were encouraged to study hard, get rid of poverty through knowledge, and contribute to the development of their hometown.

发展优势产业，构建脱贫长效力量 Developing Competitive Industries and Long-term Incentives for Poverty Alleviation

我们坚持输血与造血相结合，深入了解当地资源禀赋和产业基础，投入专门资金开展产业帮扶，切实帮助困难群众掌握脱贫致富的能力。所属企业西北电力设计院有限公司、陕西电力设计院有限公司、葛洲坝集团第三工程公司出资加入汉中产业扶贫，集中开展产业扶贫项目。

Placing equal emphasis on helping the targeted villages to gain self-development capability and providing direct support for them, we have looked deep into local resource endowment and industrial foundation, subsidized local industries and equipped needy people with the skills required for poverty alleviation. Northwest Electric Power Design Institute Co., Ltd. of China Power Engineering Consulting Group, China Energy Engineering Group Shaanxi Electric Power Design Institute Co., Ltd., and China Gezhouba Group No.3 Engineering Co., Ltd., three Energy China Group's subsidiaries, have already confirmed that all of the three will respectively invest in Hanzhong Industry Poverty Alleviation Investment Development Co., Ltd., to concentrate on industrial poverty alleviation projects.



小洋镇天麻项目
Gastrodia elata project in Xiaoyang Town



杨家河镇肉牛项目
Beef cattle project in Yangjiahe Town

CASE 案例

**青椒种植大获成功
Green prickleyash planting scores a great success**

我们积极聘请种植专家分析仁村镇气候环境、土壤情况，投入 44.15 万元，试点种植青椒 200 亩，挂果收获 3 万余斤，产值 30 余万元。在试点成功的基础上开展大片种植，目前种植面积超过 3000 亩，建成集中连片种植基地 2 个，全镇规划在三年内发展青椒种植面积至 5000 亩以上，全面投产后预计年产值近 2500 万元，全镇人均增收近 2000 元。

We engaged planting experts to analyze the climate and soil conditions of Rencun Town. Based on their verdicts, Energy China Group invested RMB 441,500 in planting 200mu of green prickleyash, and harvested over 30,000 jin with an output value of more than RMB 300,000. Green prickleyash planting was soon expanded to over 3,000 mu, bringing into shape two plantation bases. In the coming three years, the town plans to further expand green prickleyash planting to upwards of 5,000mu. If so, the annual output value will approximate RMB 25 million, and every villager will have an additional income of RMB 2,000 on average.

帮助发展电商，打通产品销售渠道 Developing E-commerce to Open Marketing Channels

我们利用能建商城帮助贫困地区建立农产品销售平台，开辟电商扶贫专区，并作为发起单位发起央企电商联盟，积极推动央企电子商务合作，助力贫困地区农产品销售、农户增收。在能建商城开办爱心超市，与对口帮扶县有关销售平台合作销售农特产品，2018 年采购当地农特产品约 1230 万元。

By means of Njisc365.com, we have helped poverty-stricken areas establish agro-product sales platforms. We have even dedicated a zone to e-commerce poverty alleviation, founded the Central SOEs E-commerce Alliance to jointly promote agro-product marketing in such areas and increase the revenue of rural households, and launched the Love Supermarket on the portal to sell agro-products and specialty products together with marketing platforms of paired supporting counties. In 2018, we purchased such products worth RMB 12.3 million.

CEEC 中国能建 ENERGY CHINA 扶贫爱心超市

电商扶贫 授之以渔

中国能建开启电商扶贫创新模式

Energy China Group launches a new model of e-commerce poverty alleviation

规范运营，共谋高质量发展

Standardized Operations for High-quality Development

发展背景 Background

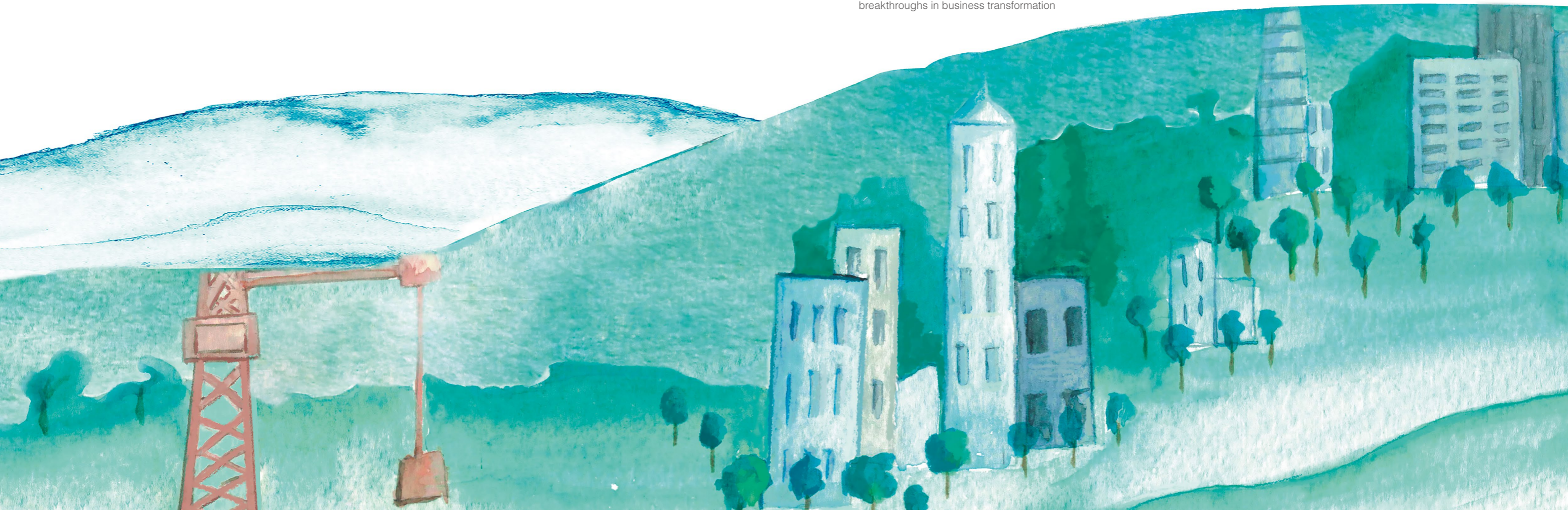
- 我国经济发展进入新常态，健全完善中国特色现代国有企业制度，规范内部管控、夯实发展基础是推动企业高质量发展的重要途径。
- 面对日益复杂严峻的市场形势和政策、经营、资金、法律和 安全环保等各类风险因素，建立良好的内部控制体系并持续 作出改善，以适应不断变化的运营需要。
- 人民对美好生活需要日益广泛，国家将供给侧结构性改革、 廉洁建设、法治体系建设放在突出位置。
- As China's economy has entered a "new normal", optimizing the modern SOE system with Chinese characteristics, regulating internal control and cementing development foundation have become important approaches to high-quality corporate development.
- Given the increasingly complex and grim market trends as well as policy, operational, financial, legal, safety and environmental risks, to establish and improve the internal control system is necessary to adjust to the ever-changing operational demands.
- In view of the people's ever-growing needs for better life, China has given pride of place to supply-side structural reform, anti-corruption, and rule of law.

主要行动策略 Major strategic actions

- 持续完善公司治理架构，强化“三重一大”决策制度执行
Constantly improve the corporate governance structure, and further implement the decision making rules about "major decisions, major personnel appointments and removals, major project investment decisions and large-sum fund use"
- 建立健全内部控制与风险管理
Establish and improve the internal control and risk management system
- 强化合规运营，加强风险防范，深化党风廉政建设和反腐败
Enhance compliance in operations, risk control, integrity building and anti-corruption efforts
- 夯实高质量发展基础，加快推进业务转型突破
Cement the foundation for high-quality development, and seek new breakthroughs in business transformation

关键议题 Key topics

- 公司治理
Corporate Governance
- 依法合规
Compliance
- 党建工作
Party Building
- 风险管理
Risk Management
- 稳健运营
Stable Operations



完善公司治理

Optimizing Corporate Governance

中国能建主要业务和资产注入中国能建股份公司，法人治理结构不断完善。中国能建以对全体股东和各利益相关方负责为己任，持续完善现代企业治理架构和决策机制，加强“三重一大”决策制度建设及执行，为集团实现稳健、可持续发展夯实治理基础。

完善公司治理结构

Optimizing the Corporate Governance Structure

集团严格遵守公司法等法律法规和《公司章程》等相关规定，建立由股东大会、董事会及专门委员会、监事会和高级管理层组成的内部治理架构，确立党委前置研究讨论重大问题、董事会专门委员会定期听取工作汇报的工作机制，持续完善董事会专门委员会议事规则等制度体系和管理机制，确保集团治理的规范化、科学化与制度化。

贯彻落实“三重一大”决策制度

Implementing the “Three Majors and One Large” Decision-making System

制定“三重一大”决策管理制度，规范“三重一大”决策事项，确保党委研究讨论作为公司决策重大问题的前置程序，确保“三重一大”决策制度执行到位，所属二级单位全部按要求制定完善了本单位“三重一大”制度。组织所属企业开展“三重一大”决策制度落实情况专项审计，督促所属企业规范决策行为，提高决策水平，防范决策风险，保障企业持续合规健康发展。

保护投资者权益

Safeguarding Investors' Rights and Interests

中国能建注重向投资者提供准确及时的资料，力求通过有效渠道保持沟通，提高集团信息披露透明度，及时、有效、完整、合规开展信息披露。董事会专门委员会由独立非执行董事担任主任或委员，保障独立非执行董事在保护中小股东利益中充分发挥作用。

Energy China Group moved all of its main business and assets to Energy China, in an effort to promote corporate governance integration. Responsible for the rights and interests of all shareholders and stakeholders, we have constantly improved the modern corporate governance structure, built and implemented the “Three Majors and One Large” decision making rules, and cemented the foundation for stable, sustainable development.

Energy China Group has strictly followed the Company Law, the Articles of Association and relevant laws and regulations. We have established an internal governance structure composed of the Shareholders' Meeting, Board of Directors and its specialized committees, Board of Supervisors and Senior Management. We make decision by prioritizing the study and discussion of the Party Committee in key issues; we keep the mechanism for routine debriefing of work report by the specialized committees; we also constantly improve the rules of procedure among the special committees, enabling a scientifically-sound governance structure to function as per related standards and institutional systems.

We have developed the “Three Majors and One Large” decision-making system and standardized the matters to be decided, ensuring the Party Committee's involvement in deciding for key issues. All our secondary units have also optimized their own “Three Majors and One Large” systems according to our requirements. We have audited the implementation of the “Three Majors and One Large” systems by our subsidiaries, urging them to regulate and improve decision-making, prevent relevant risks, and ensure compliance and healthy development in the long run.

Energy China Group sets much store by informing investors in an accurate and timely manner. We strive to stay in touch with investors through smooth channels, and ensure timely, effective, complete and compliant information disclosure. The specialized committees ensure that independent non-executive directors will give full play to their role in safeguarding the interests of small- and medium-sized shareholders in particular.

严格依法合规

Strengthening Compliance

中国能建秉承法律至上、权责对等、遵守程序、诚实守信、公平公正的现代企业法治理念，以合规管理为平台，规范企业和员工行为；以法治思维为导向，提升企业依法管理能力；以制度约束为重点，努力实现集团治理体系和管控能力的现代化和国际化。

依法治企

Law-based Corporate Governance

贯彻落实《关于全面推进法治央企建设的意见》及《中央企业主要负责人履行推进法治建设第一责任人职责规定》的总体要求，积极开展法治能建建设工作，组织开展宪法学习、普法宣传和培训工作，全力提升全员法治意识，形成“决策问法”“经营依法”的法治理念，切实提升依法治企的能力和水平。

Implement the *Opinions on the Comprehensive Promotion of Building Law-based Central SOEs* and the *Rules on the Responsibilities of the Principal Leaders of Central SOEs as First Responsible Persons to Promote the Law-based Corporate Governance*, actively promote related work, organize the study of the Constitution, and promote the training on laws and popularization of the law. All work aims to enhance employees' awareness of the rule of law, develop the concept of “law-based decision-making” and “management according to law”, and effectively improve our ability and level of law-based corporate governance.

法律管理

Legal Management

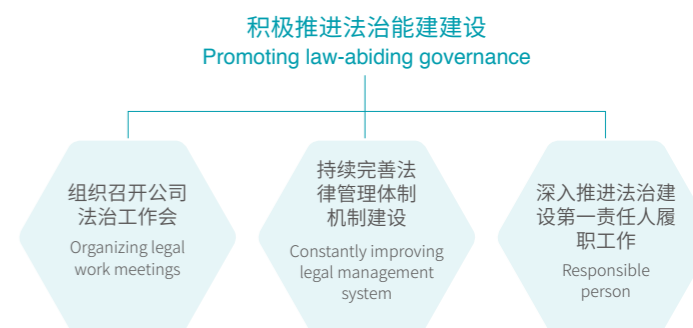
编制经济合同、规章制度及重大决策三项法律审核指导意见，汇编《PPP业务相关禁止性规定》等法律法规文件，持续完善法律制度体系。推动总法律顾问制度落地，加强法律风险防控和警示教育，履行法律监督职能。2018年，集团开展各类合同、规章制度及重要决策的审核工作，强化重大事项和关键环节的法律风险管控，有效控制法律风险。

违规经营责任追究

Responsibility Investigation on Illicit Operations

设立违规经营投资责任追究办公室，制定《违规经营投资责任追究实施办法（试行）》，明确责任追究情形，明确资产损失认定标准、责任认定标准和责任追究程序，建立违规经营投资责任追究报告工作机制。

Energy China Group upholds the modern corporate governance philosophy of “supremacy of law, equal rights and responsibilities, procedural compliance, integrity, fairness and justice”, regulating the behavior of companies and employees through compliance management. We have enhanced our capability of law-abiding management, and strive for the modernization and internationalization of corporate governance system and control capability.



We have issued guiding opinions on reviewing contracts, institutions and major decisions, and developed *The Prohibition Regulations on Business Related to PPP* and other regulations. We have promoted the system of General Counsel and enhanced the legal risk control and education, performing our supervisory duty according to law. In 2018, we examined different types of contracts, internal regulations and major decisions, and enhanced legal risk control over key matters and links.

We have established *The Measures for Investigating the Responsibility of Illicit Operations and Investment*, and issued interim measures which clearly specify the circumstances which may trigger investigations, the standards for determining asset losses and responsibility, and the procedure of investigations. We have also established the work mechanism for reporting on such investigations.

加强党建引领

Enhancing Party Leadership

中国能建以习近平新时代中国特色社会主义思想 and 党的十九大精神为指导，牢牢把握新时代党的建设总要求，坚持党对企业的全面领导，持续加强党的建设，将党的领导、党的建设和企业改革发展深度融合，推动企业高质量发展。

坚持党的全面领导

Upholding Party Leadership

按照“应进必进”要求推进党建入章程。16 户二级企业、83 户三级企业全部完成党建入章程，实现 100% 全覆盖。推行“双向进入、交叉任职”领导体制。二、三级企业扎实推行党委书记、董事长“一肩挑”，党员总经理兼任党委副书记。建立完善党委会议事规则等制度。制定《党委会议事规则》，修订《党委常委会议事规则》，明确党委发挥领导作用，把方向、管大局、保落实。

强化党建与中心工作有机融合。坚持抓党建向促经营发力，助力生产经营、助推业务转型，促进党建与企业生产经营密切融合、同频共振。紧密结合重大项目、重点工程和生产经营重点难点，深入开展“创先争优”活动，实现生产经营中心工作落细在基层、落实进支部、落地到班组，让基层党组织的凝聚力战斗力在生产经营中锻造加强、发挥作用、经受检验。

提升党建质量

Enhancing Party Building

中央八项规定精神典型案例汇编印发所属企业召开党代会工作计划，推动相关工作制度化开展。认真执行“三会一课”、领导班子民主生活会、组织生活会、谈心谈话、党员党性分析等基本制度，以高质量党建推动企业高质量发展。

We have issued the work plans on Party Congress within subsidiaries, hoping that such congresses will become a routine. We have followed the rules on "holding the meeting of Party branch members, the meeting of Party branch committee and the meeting of Party groups, and attending Party lectures", hold democratic life meeting of the leadership, have regular integrity talks with officials, and conduct Party consciousness analysis, promoting high-quality corporate development with high-quality Party development.

Adhering to the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the guiding principles of the 19th CPC National Congress, and the general requirements for Party building in the new era, we have stressed Party leadership, and further integrated Party building with corporate reform and development, so as to promote the high-quality development.

All the 16 tier-two subsidiaries and 83 tier-three subsidiaries of Energy China Group have enshrined Party building into the Articles of Association. We have implemented the "cross appointment" system. At tier-two and tier-three subsidiaries, Party Committee Secretary doubles as Chairman while General Manager doubles as Deputy Party Committee Secretary. We have established the Rules on Party Committee Meeting and amended the Rules on the Party Standing Committee's Meeting, thus specifying the leading role of the Party Committee.

We have seamlessly integrated Party building with our core tasks. Indeed, Party building has lent itself to our operations and business transformation. When it comes to key projects as well as major operational tasks and challenges, we have given grassroots, Party branches and group teams the pride of place, enabling grassroots Party organizations to develop synergies and strength, play a pioneering role and stand the tests.

- 聚焦“中央企业党建质量提升年”要求，全面落实党建 70 项行动计划，构建集团党建三级责任体系，加强党委规范化、支部标准化建设，以考促建，提升基层党建质量。

The year 2018 was a crucial year for central SOEs to ramp up Party building. Based on the requirements concerned, we have implemented the plans for 70 Party building actions, built a three-tiered Party building responsibility system, to regulate the Party Committee and Party branches, promote Party building through examination, and boost grassroots Party organizations.

- 召开党建工作推进会，聚焦上级党建、组织、宣传三个重要会议，对集团党的建设工作进行再部署再落实，有效发挥党委领导作用。We have organized meetings to promote Party building among leaders, organization, and publicity. We have further planned for and carried out Party building at Energy China Group level, thus bringing into play the leading role of the Party Committee.

- 认真学习全国组织工作会议精神，抓好干部队伍建设和人才队伍建设，为企业改革发展提供智力支撑。

We have carefully studied the guiding principles of the national conference on organizational work, and devoted ourselves to official and talent building, thus providing intellectual support for corporate reform and development.

深化反腐倡廉

Deepening Anti-corruption Efforts and Integrity Building

中国能建持之以恒正风肃纪，深入开展警示教育，推进约谈工作常态化，提升员工廉洁自律意识和拒腐防变能力，营造风清气正、干事创业的良好氛围，为集团健康发展提供坚强保障。

Energy China Group has worked ceaselessly to improve Party conduct and enforce Party discipline. By providing anti-corruption education and making integrity talks with officials a routine, we strive to enhance our integrity awareness and corruption resistance, create an honest and entrepreneurial atmosphere, and in turn provide staunch support for Energy China Group's healthy development.

制度建设 Institutional development

集团大力构建“不能腐”体制机制，明确工作任务、具体措施及目标要求，形成“不能腐”的行动方案和路线图。开展廉洁风险防控研究，在充分调研的基础上修订《廉洁风险防范管理办法》。制定《扶贫攻坚监督办法》《所属企业纪委书记履职考核暂行办法》等一系列制度文件，形成了更加完善的反腐倡廉制度体系。完成“一带一路”建设腐败风险科威特、伊朗国别研究报告，为集团在海外腐败风险防控奠定基础。

Energy China Group has spared no effort to build an anti-corruption institutional framework, clarified its tasks, measures and goals, and developed the action platform and blueprint. We conducted research on integrity risk control, and on such basis amended *The Administrative Measures for Integrity Risk Control*. We also developed *The Measures for Poverty Alleviation Supervision* and *The Interim Measures for Examining the Duty Performance of the Secretary of the Commission for Discipline Inspection of Energy China Group's Subsidiaries*, thus giving shape to a full-fledged system of anti-corruption rules. We published research on the corruption risks of Kuwait and Iran within the Belt and Road anti-corruption system, laying the foundation for our overseas corruption risk control.

责任落实 Responsibility implementation

集团与所属单位党委负责人、纪委负责人签订党风廉政建设主体责任书、监督责任书，推进党风廉政建设责任制层层落实。科学规划集团巡视工作，制定巡视工作方案和计划，督促所属企业全部建立巡察制度和反馈，及时跟进相关问题的整改进展。

Energy China Group signs the Letters of Responsibilities for integrity building with heads of Party Committee and Commission for Discipline Inspection, promoting top-down implementation of the integrity building responsibility system. We have laid down scientific work plans for patrol and urged all subsidiaries to establish the patrol system, so that they can keep track of existing problems and rectification progress.

能力建设 Capacity building

我们积极开展反腐倡廉教育和培训，提升反腐倡廉工作专业能力。开展纪委书记述职考核、配齐配强专职人员、干部培训等工作，不断提升干部队伍履职能力和水平。召开警示教育大会、编制违反中央八项规定精神典型案例汇编、开展常态化的领导干部约谈，充分发挥警示教育作用。2018 年，开展反腐倡廉教育宣传 2,072 次，参加人数达到 122,172 人次。

We provide anti-corruption education and training to enhance our professional capability of related work, hold meetings to examine Party Committee Secretary's work report, assign designated personnel and provide special training for officials, constantly improving the duty performance of our officials. We also hold anti-corruption education meetings, itemize typical cases of breach against the spirit of the eight central rules of the Party Central Committee on improving Party and government conduct, and make integrity talks with officials a routine. In 2018, we held 2,072 anti-corruption training sessions and publicity campaigns, involving 122,172 participants.

2,072

开展反腐倡廉教育宣传 (次)
Held anti-corruption training sessions
and publicity campaigns (times)

122,172

参加人数 (人次)
Involving participants



召开党委书记现场述职评议会
Party Committee Secretary's Work Reporting Meeting

全面风险管理

Promoting Comprehensive Risk Management

中国能建围绕政策风险、工程项目管理风险、竞争风险、法律纠纷风险、健康安全环保风险、国际化经营风险和现金流风险等风险因素，统筹谋划全面风险管理，从组织领导、制度建设、工作重心等方面强落实、抓重点、补短板，坚决防范化解重大风险。

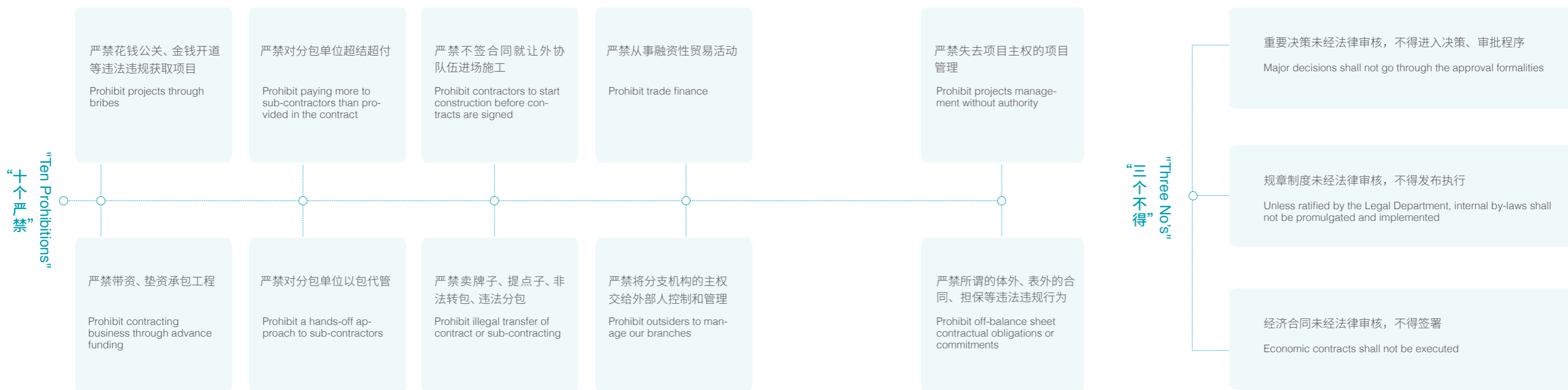
Given the policy, project management, competition, legal, health, safety, environmental, international operations and liquidity risks, we have made comprehensive plans for risk management with a focus on organization, institutions and core tasks, so as to resolutely prevent and eliminate major risks.

强化风险管理

Enhancing Risk Management

建立以党委书记、董事长为第一责任人、法律事务部门牵头、业务部门和所属企业具体负责的内部控制与风险管理工作体系。每年开展内部控制与风险管理评价，识别并督促整改内部控制缺陷，持续改进风险管控机制。2018年，集团各项风险可控、受控，未发生重大风险事件。

Energy China Group has established an internal control and risk management system under which Party Committee Secretary and Chairman is the first responsible person. The system is managed by the Legal Department, and run by business departments and subsidiaries. Annual assessment will lend itself to identify, and urge the rectification of internal control deficiencies, and constantly improve the risk control mechanism. In 2018, all risks were controllable and under control, with zero incident of major risks.



加强 PPP 业务风险管控

Strengthening PPP Risk Control

加强 PPP 业务研究，指导和规范 PPP 业务，开展 PPP 业务风险排查，规避 PPP 业务经营风险。开展 PPP 业务梳理，研究影响 PPP 业务发展的关键法律风险点，提出应对措施。组织 PPP 业务风险评估，对融资、政府付费、政策变化等问题进行探讨，提升法律人员对新商业模式业务的认识和风险管控能力。

We provide guidance on PPP business to standardize its development and make trouble-shooting to prevent risks. We study the key legal risks of PPP and propose solutions. By organizing evaluation of PPP risks and discussing such topics as financing, government payment and policy change, we aim at enhancing our legal personnel's awareness of new business modes and capability of risk control.

完善海外风险防控

Optimizing Overseas Risk Control

持续加强国际业务的风险防控，督促落实国家关于规范企业海外经营行为的要求，依法合规开展国际业务。针对中国企业“走出去”面临的较为突出的境外合规风险，组织开展境外合规经营风险排查。制定《出口信用保险业务管理实施细则》，防范项目政治风险和商业风险。举办境外安全风险防控与应急处置培训，增强国际业务各级管理人员风险意识和应急处置能力。

We constantly enhance the international business risk control, urge the implementation of national requirements on standardizing overseas operations, and conduct international business according to law. Given the prominent compliance risks facing Chinese enterprises during “going global”, we have trouble-shot our overseas operations and developed the Detailed Rules on Managing Export Credit Insurance to prevent political and business risks of our projects. We also conduct training on overseas security risk control and emergency response, in an effort to enhance the risk awareness and emergency response capability of international business managers at various levels.

持续稳健经营

Maintaining Stable Operations

中国能建有效应对激烈的市场竞争、急迫的转型压力和繁重的保增长任务带来的考验，进一步夯实高质量发展基础、加快推进业务转型突破，生产经营保持平稳发展。

推进业务转型

Promoting Business Transformation

适时采用不同策略调整各业务板块结构，有序配置各项资源，促进企业资源优化配置与业务转型升级，集团发展能力稳步提升。

Energy China Group effectively addresses such challenges as the grim market trend and mounting transformation pressure, and has maintained stable business growth against all odds by further cementing the foundation for high-quality development, and breaking new grounds on business transformation.

We adopt different policies in due course to restructure our business, and deploy resources in an orderly manner, so as to promote transformation and upgrading, and steadily enhance our development capacity.



拓展新业务领域市场 Tapping into new business, areas and markets

深度融入“一带一路”建设，科学布局海外市场，国际业务新签合同额、营业收入、利润总额占比分别提高0.84%、0.45%、3.27%，对集团发展的支撑作用不断增强

We have further integrated into the BRI and scientifically tapped into overseas markets. The proportions of international business contract value, operating revenue, and total profit rise by 0.84%, 0.45% and 3.27% year over year, which indicates increasing support of international business for corporate development



积极参与雄安新区、军民融合、长江大保护等国家重大战略实施

Engaging in key national strategies like Xiong'an New Area, civil-military integration, and Yangtze River protection

抢抓基础设施建设市场机遇，国内非电工程新签合同额同比增长15.69%，占比达到49.71%，电与非电业务共同发力的态势基本形成

Seizing on infrastructure market opportunities, we have seen a 15.69% year over year increase in the value of new contracts for domestic non-electrical projects. The proportion of such projects has thus reached 49.71%, almost as high as that of electrical projects



创新商业模式 Developing new business models

成立基金管理公司，加强与中国PPP基金等机构的合作，持续提升各级企业新商业模式项目运作能力，实施市政道路、污水处理、棚户区改造、园区开发、生态修复等项目

We have established a fund management company to enhance cooperation with Chinese PPP funds and other financial institutions, constantly enhance the project operation capacity of companies at various levels under new business models, and implement projects covering municipal roads, sewage treatment, shantytown reconstruction, industrial park development, and ecological remediation



稳步推进投资业务 Moving ahead with investment business steadily

顺利推进风电、光伏、生物质等投资项目，有效带动主业发展；同时，以环保水务打造集团性的经济增长极的局面已经形成

We have promoted investment projects covering wind power, PV power and biomass power. Such projects have given our main business a boost. Meanwhile, environment-friendly water business has established itself as a growth driver

实现持续发展

Realizing Sustainable Development

充分发挥产业、资源协同优势，全力推进高质量发展，国际业务、国内电力业务、国内非电业务等板块协调发展的格局更加巩固，综合实力持续增强。

Energy China Group leverages our coordinated industry chain and integrated resources to press ahead with high-quality development. Our international business, domestic power business and non-electrical business will develop greater synergies, and our overall strength continues in the uptrend.

经营业绩

Business performance

指标 Indicator	2018年 2018	同比变化 Year on year change
营业收入(亿元) Operating revenue (RMB 100 million)	2260.67	降低 4.56% Decreased of 4.56%
新签合同总额(亿元) Total amount of new contracts signed (RMB 100 million)	4640.67	增加 4.11% Growth of 4.11%
资产总额(亿元) Total assets (RMB 100 million)	3965.54	增加 11.46% Growth of 11.46%
所有者权益(亿元) Owner's equity (RMB 100 million)	992.21	增加 15.38% Growth of 15.38%

国际化经营

Global operation

指标 Indicator	2018年 2018	同比变化 Year on year change
国际业务签约总额(亿元) Total investment business contracts signed (RMB 100 million)	1421.19	增加 7.06% Growth of 7.06%
营业收入(亿元) Operating income (RMB 100 million)	389.85	降低 1.97% Decreased of 1.97%
利润总额(亿元) Total profit (RMB 100 million)	38.04	增加 17.92% Growth of 17.92%

投资业务

Investment business

指标 Indicator	2018年 2018	同比变化 Year on year change
投资总额(亿元) Total investment (RMB 100 million)	632.82	增加 26.32% Growth of 26.32%
固定资产投资(亿元) Fixed asset investment (RMB 100 million)	35.14	降低 18.17% Decreased of 18.17%
股权投资(亿元) Equity investment (RMB 100 million)	35.14	增加 81.41% Growth of 81.41%
房地产开发投资(亿元) Real estate investment (RMB 100 million)	195.33	增加 5.76% Growth of 5.76%
融资建设投资(亿元) Construction financing (RMB 100 million)	367.21	增加 44.60% Growth of 44.60%

经营效益

Operation performance

指标 Indicator	2018年 2018	同比变化 Year on year change
利润总额(亿元) Total profit (RMB 100 million)	115.92	增加 6.19% Growth of 6.19%
净利润(亿元) Net profit (RMB 100 million)	88.11	增加 5.46% Growth of 5.46%
资产负债率(%) Asset-liability ratio (%)	74.98%	降低 0.85% Decreased of 0.85%
成本费用占营业收入比重(%) Cost and expense account for the proportion of operating revenue (%)	96.38%	降低 0.55% Decreased of 0.55%

至精至臻，共建品质工程

Devoting Ourselves to Creating High-quality Projects

发展背景

Background

- 我国经济已由高速增长阶段转向高质量发展阶段，正处在转变发展方式、优化经济结构、转换增长动力的攻关期，建设高质量工程，助推高质量发展是中央企业义不容辞的责任。
- The Chinese economy has moved from high speed growth to high quality development. In this crucial period when China is changing the development approach, optimizing economic restructuring, and shifting growth engine, Central SOEs have the unshakable responsibility to develop high quality projects as a driver for high quality development.
- 变革创新是推动人类社会向前发展的根本动力，在当前经济发展进入新常态、国际竞争日益激烈的背景下，唯有加强创新引领，才能实现企业持续发展，提供更高品质的服务。
- Transformation and innovation are the fundamental driving force that pushes the human society forward. As the economy enters the new normal and the international competition grows increasingly intense, only innovation can boost sustainable business development and help companies provide better services.

主要行动策略

Major strategic actions

- 加强质量管理，强化质量监督检查
Strengthen quality management and quality supervision and inspection
- 完善科技创新体系，强化科技创新能力，加强科技创新成果转化
Improve the technological innovation system, strengthen innovative capability, and facilitate technology transfer

关键议题

Key topics

- 工程质量
Engineering Quality
- 创新发展
Innovation-Driven Development



提升质量管理

Improving Quality Management

集团坚持质量强企，持续加强工程、产品、服务质量管理，为客户提供精益设计、精品工程和精良装备。2018年，集团工程勘测设计、咨询、监理成品合格率100%，在建项目单元（分项）工程合格率100%、优良率94.85%（水电）、受监焊口一次检验合格率98.12%（火电），工程总承包项目单位工程合格率100%，工业和装备产品出厂合格率100%，竣工项目验收质量满足合同要求。

Energy China Group is committed to quality-driven development. We have been strengthening our quality management of engineering, products and services, to provide excellent design, engineering, and equipment for our clients. In 2018, Energy China Group's engineering survey, design, consultancy, supervision projects reached 100% in success rate. The units of the projects under construction also saw 100% in engineering success rate and 94.85% in excellence rate (hydropower). The first time yield of supervised welds was 98.12% (thermal power). The success rate of EPC projects stood at 100% and the acceptance rate for industrial and equipment products was 100%. Completed projects met contractual requirements in examinations.

加强质量建设

Strengthening Quality Development

集团严格要求所属企业贯彻落实《中共中央 国务院关于开展质量提升行动的指导意见》，结合实际制定实施方案，编制质量提升专刊和质量提升工作报告，持续深入开展质量提升行动。

We have ordered all subsidiaries to fully implement the *Guiding Opinions of the CPC Central Committee and the State Council on Quality Improvement*, design action plans based on actual conditions, develop periodicals and reports on quality improvement, and sustainably conduct in-depth quality improvement programs.

完善质量专家库。结合集团转型升级对质量专家人才的要求，更新调整质量专家库，增补一批新领域、新业态的质量专家。

Improving quality expert database. For our corporate transformation, we have reorganized our quality experts and added experts in new fields and new business types.

开展专项活动。组织以“全面提升质量 建设质量强企”为主题的“质量月”活动，开展中央企业全面质量管理知识竞赛、质量管理现状调查等专项工作。

Conducting specialized activities. We have launched the “Quality Month” campaign to “promote company growth through comprehensive quality programs”. Other activities included Central SOEs quality management contest, quality management survey, etc.



2018年“质量月”质量展览活动
The “Quality Month” exhibition in 2018

强化质量监督

Strengthening Quality Supervision

集团加强对工程、产品、服务质量的监督，面对投诉问题，及时和客户交流沟通协调，共同推动有关问题妥善解决，不断提升工程、产品、服务质量。

We have strengthened the quality supervision of engineering, products and services. Upon receiving complaints, we have had timely discussions and coordination with the clients, to offer joint solutions and improve quality.



质量创优成果丰硕

Awards and Honors

集团质量创优工作成效显著，赢得了客户的普遍认可与信赖。2018年，集团荣获国家优质工程奖32项（其中金质奖7项）、菲迪克杰出成就奖和优秀工程奖各1项、中国电力优质工程奖41项。



安徽电建一公司承建的利辛板集电厂获得2018年度国家优质工程金质奖
The Lixin Banji Power Plant constructed by Anhui No.1 Electric Power Construction Co. Ltd., won National Quality Project Gold Award.

Our fruitful quality improvement efforts have won our clients' recognition and trust. In 2018, we won 32 National Quality Project Awards (including 7 gold prizes), 1 FIDIC Outstanding Project of the Year, 1 FIDIC Merit Project of the Year, and 41 China Quality Electrical Project Awards.

科技创新引领 Promoting S&T Innovation

集团积极开展技术创新、管理创新、商业模式创新、体制机制创新，建立健全科研管理体系，强化创新能力建设，加强信息化管理，鼓励所属企业加强科技创新，为实现可持续发展奠定基础。

完善科技创新体系 Improving S&T Innovation System

集团持续深化科技创新体系建设，从研发体系建设、高端创新平台建设、科技工作考核机制、技术专家队伍建设等方面加强管理，推动创新能力进一步提升。2018年，我们组织落实“十三五”科技发展规划，开展重大科技专项、众筹科技项目、所属各单位自主立项等多层次科研工作，加大科技创新投入，全年总计投入科技经费 62.16 亿元，科技投入比达到 2.75%。

建立多层次研发体系 Multi-Layered R&D System

- **重大科技专项：**能够推动产业结构调整和技术升级，具有系统性和全局性的科研项目采用重大科技专项研发
Major technological projects: refer to systemic and holistic R&D projects capable of promoting industrial restructuring and technological upgrades
- **众筹科技项目：**多个单位有共性需求的科研项目采用众筹科技立项研发
Crowd-funding technological projects: refer to R&D projects needed by multiple subsidiaries
- **各单位自主立项：**各单位依托在建工程开展的个性化技术攻关采用自主立项研发
Subsidiaries' own projects: refer to individualized R&D projects based on each subsidiary's current engineering efforts

建立考核指标体系 Appraisal System

- **研究制定科技创新考核标准，**从科技投入、科技成果转化、科技创新团队、科技成果获奖、标准和专利等方面开展科技创新考核，完善科技创新激励约束机制
Develop the appraisal criteria for technological innovation. Innovations are evaluated on technological input, technology transfer, research team, award, standard and patent application, etc., to better incentivize innovations

We are dedicated to innovating in technologies, management, business models, institutions, and mechanisms. To secure sustainability, we have been improving our S&T innovation system, strengthening our innovative capability, promoting digital management, and encouraging subsidiaries to step up S&T innovation.

We have been pushing ahead with the development of our S&T innovation system, by improving the R&D system, high-tech innovation platform, innovation appraisal system, and our team of technological experts. This has further increased our innovative capability. In 2018, we implemented the 13th Five-Year Plan for Scientific and Technological Development, and carried out multi-layered R&D projects, including major technological projects, crowd-funding technological projects, subsidiaries' own projects. We increased investment in technological innovation and the total investment in science and technology was RMB 6.2161 billion. The proportion of science and technology input to total investment reached 2.75%.

建设创新平台 Innovation Platform

- **加强高端科技创新平台建设，**提高利用社会科研资源的能力，增强创新实力
Push forward with the high-tech innovation platform, better use social R&D resources, and strengthen innovativeness
- **葛洲坝集团重点加强国家级企业技术中心和院士专家工作站建设，**2018年以 91.3 分高分通过国家发改委组织的国家企业技术中心评价，获评“优秀”
China Gezhouba Group has been focusing on the development of the National Business Technological Center and the Work Station for Academicians and Experts. The Center got a high score of 91.3 ("excellence") in the 2018 National Business Technological Center Evaluation by the National Development and Reform Commission

工程技术专家评选 Engineering Experts Selection

- **根据《中国能源建设股份有限公司工程技术专家评选实施细则》，**按照公开、公正、择优的原则，开展工程技术专家评选工作
Based on the *Rules on the Selection of Engineering Experts in China Energy Engineering Corporation Limited*, select leading engineering experts transparently and justly
- **2018年，**评选出工程技术专家 103 名
103 experts were selected in 2018

科技创新成果丰硕 Awards and Achievements of S&T Innovation

2018年，我们完成了“主动配电网规划设计相关领域关键技术”“相控阵超声检测技术”“电站新型钢自动焊和信息控制技术”等一批关键技术攻关，获得国家级科技奖励 3 项，省部和行业级科技奖励 220 项，省部和行业级及以上科技奖励同比增长 27.4%；获得专利授权 1289 项（其中发明专利 231 项）、软件著作权 106 项。拥有有效专利 8797 项，同比增长 9.96%；拥有有效发明专利 1531 项，同比增长 16.1%。

- “重大工程结构安全服役的高韧性纤维混凝土制备与应用关键技术”为我国高坝等重大工程混凝土结构的服役性能提升提供了关键材料和技术保障，荣获国家技术发明奖二等奖。
- “超大型水电站用金属结构关键材料成套技术开发应用”形成了具有国际竞争力的全产业链创新技术集群，荣获国家科技进步二等奖。
- “电力系统接地基础理论、关键技术及工程应用”首创了岩土地区爆破接地降阻技术，发明了接地系统诊断技术，荣获国家科学技术进步奖二等奖。

In 2018, we successfully developed a range of key technologies, including the “Key Technologies for the Planning and Design of Active Distribution Network”, the “Technologies of Phased Array Ultrasonic Testing”, and the “Technologies for the Automatic Welding and Digital Control of New Steel in Power Plants”. We won 3 national technology awards and 220 provincial and industrial technology awards—an increase of 27.4% over last year. 1289 patents (including 231 invention patents) and 106 software copyrights were obtained. We had 8,797 valid patents, up by 9.96% year on year, and had 1,531 effective invention patents, up by 16.1% year on year.

“Key Technologies for the Preparation and Application of Safe-Service High Ductility Fiber Reinforced Concrete Employed in Major Projects” won the second prize of 2018 National Technology Invention Award for providing the key materials and technologies that improve the performance of concrete structures in major projects such as high dams.

“Development and Application of Technologies for Key Materials for Metallic Structures at Ultra-Large Hydropower Stations” won the second prize of 2018 National Scientific and Technological Progress Award for creating an internationally competitive cluster of innovative technologies that cover the entire industrial chain.

“Grounding of Electrical Systems: Basic Theories, Key Technologies, and Engineering Application” won the second prize of 2018 National Scientific and Technological Progress Award for inventing the technologies for the explosives, grounding, and resistance reduction in rocky areas and the diagnosis of grounding systems.

成果应用成效显著 Successful Applications

集团通过落实科技发展和信息化规划，搭建科技和信息化交流平台，促进各单位互相学习、取长补短，将研究成果在水电、火电、电网、新能源、非电等工程中转化和应用，创造了显著的经济效益和社会效益。2018年，集团立项科研成果在 181 个项目中得到较好应用，所属各单位自主立项科技项目成果通过转化应用，取得直接经济效益 17 亿元，助力市场开发新增合同额 468.9 亿元。中能装备的生物绝缘油变压器、三相负荷不平衡智能调节装置（SUC）、有机废气综合治理系统等 3 个项目科技成果转化总计获得经济效益 1.6 亿元。

We have implemented our plans for scientific and technological development and digitization, and built a platform for exchanges in this area to encourage all subsidiaries to learn from each other. Researches were commercialized in hydropower, thermal power, grid, new energy, non-electrical and other projects, which created significant economic and social benefits. In 2018, our R&D findings were applied to 181 projects. Subsidiaries' own R&D projects were also translated to RMB 1.7 billion of direct economic gains and RMB 46.89 billion of new contracts. China Energy Engineering Group Equipment Co., Ltd.'s 3 R&D projects—bio-dielectric oil for transformers, smart unbalance controller for three-phase loads (SUC), and the comprehensive treatment system for organic exhaust—resulted in a total of RMB 160 million in economic gains.

加强信息化建设 Strengthening Digitization

我们加强管理信息系统建设，提升管理效率和效益；推进主营业务信息化工作，助力企业发展与改革创新。开展信息化规划中期评估，进一步提高集团管控和主营业务的信息化水平，利用信息化、数字化、网络化、智慧化手段改进项目管理，提高运营管控效率。2018年，集团所属单位信息化管理和应用成果显著，获得 2018 年 IDC 中国“运营模式转型领军者”荣誉称号，中国信息协会能源分会信息安全管理创新成果一等奖、中国电力企业联合会 2018 年电力创新大赛一等奖等荣誉。

We have stepped up our digital system management for better efficiency and performance. We have also been pushing forward with the digitization of our main businesses, to promote company growth, reform, and innovation. Mid-term evaluations of digital planning were conducted to improve project management and control efficiency with digital, online, and smart tools. In 2018, our subsidiaries saw great success in digital management and application. We were selected as the 2018 IDC China “Pioneer in Operating Model Transformation” and won the first prize in information security management innovation by the Energy Branch of China Information Industry Association, and the first prize in the 2018 Electrical Innovation Contest by the China Electricity Council.

凝心聚力，迸发能建力量

Developing Synergies and Facilitating Employee Growth

发展背景

Background

- 切实服务职工、维护员工合法权益，才能让员工有更多的获得感和幸福感，才能更好地与企业共发展。
 - 关爱农民工，促进农民工就业，把农民工维权、关爱等各项工作落到实处是共建和谐小康社会的应有之义。
 - 安全生产是全面落实科学发展观与构建社会主义和谐社会的必然要求，是企业持续健康发展的基础。
 - 培养造就具有国际水平的战略科技人才、科技领军人才、青年科技人才和高水平创新团队，才能更好地开展国有企业改革，才能在企业竞争中占据制高点。
 - 良好地平衡工作与生活才能使员工更好地融入工作，与企业同发展共进退。
- Employees whose legitimate rights and interests are safeguarded by their company will have a stronger sense of fulfillment and happiness, and readily grow with the company.
 - It is an integral part of a harmonious and prosperous society to support migrant workers, improve their employment, and address their concerns, such as the protection of their rights and interests.
 - Work safety is the prerequisite for implementing the scientific outlook on development and building a harmonious socialist society. It is also the basis for sustainable and healthy business development.
 - Only by cultivating technological strategists, technological pioneers, young technological specialists, and quality teams for innovation with an international horizon, can SOEs better implement their reforms and gain competitive edge against other companies.
 - Good work-life balance will increase the dedication and loyalty of employees.

主要行动策略

Major strategic actions

- 加强员工权益保护，职工收入与企业效益协调增长，调动广大干部职工工作积极性
Strengthen the protection of employees' rights and interests, increase their income in line with company growth, and provide proper incentives
- 加强组织建设和民主管理，维护员工合法权益
Improve employees' organization and democratic management, and protect employees' legitimate rights and interests
- 加强员工职业规划和技能培训，助力员工成长成才
Improve employees' career planning and skill training to help them grow
- 推进安全生产，加强安全培训，保障职业健康安全，营造安全放心工作环境
Promote work safety, strengthen safety training, safeguard occupational health, and build a safe and reassuring workplace
- 丰富员工精神生活，帮助员工平衡工作与生活，关心关爱员工，关爱离退休人员
Enrich employees' cultural lives, help them achieve work-life balance, and support them, especially the retirees
- 保障农民工工资支付，保护农民工权益。
Guarantee migrant workers' payroll disbursement and protect their rights and interests

关键议题

Key topics

- 保护员工权益
Protecting Employees' Rights and Interests
- 员工培训与职业发展
Training and Professional Development
- 安全生产
Work Safety
- 平衡工作生活
Work-Life Balance
- 关爱农民工
Migrant Worker Care



保护员工权益

Protecting Employees' Rights and Interests

中国能建高度重视员工权益保护，严格遵守国家法律法规和集团规章制度，主动与员工交流沟通，回应员工期望和诉求，促进员工与企业同发展。

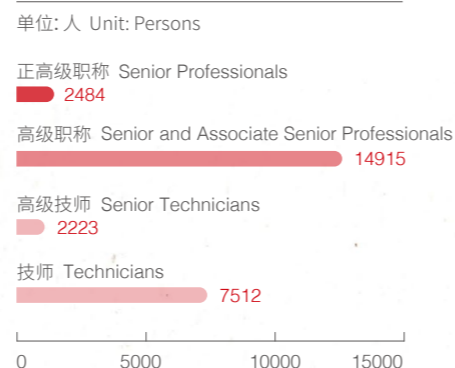
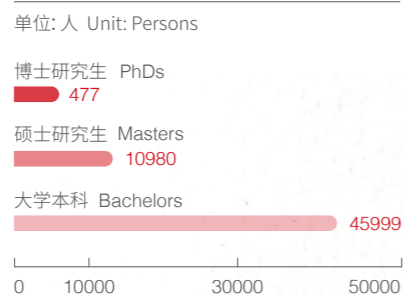
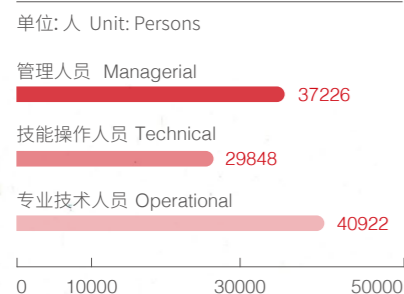
Energy China Group attaches high importance to the protection of employees' rights and interests. We have strictly abided by national laws and regulations, and corporate rules, taken the initiative to communicate with our employees, and responded to their expectations and demands, to help them grow together with Energy China Group.

员工基本情况

About Employees

截至 2018 年底，集团员工总数 129929 人，其中男性员工 100912 人，女性员工 29017 人，男女员工比例约为 7:2，分流安置员工 19431 人，新增就业人数 3973 人。

By the end of 2018, our employees totaled 129,929, including 100,912 male and 29,017 female, with a ratio of male to female employees of 7:2. We relocated 19,431 workers, and added 3,973 positions.



保障合法权益

Safeguarding Legitimate Rights and Interests

集团加强员工权益保护，依法为员工足额缴纳五险一金，规范建立补充医疗保险，引导建立员工福利与企业发展“同向”机制。进一步健全激励约束机制，深化薪酬分配改革。完善中长期激励机制，充分发挥工资总额的杠杆引领作用，调动广大干部职工工作积极性，保证员工收入与企业效益协调增长。2018 年，支付员工工资 1567988 万元，为员工缴纳社保 500106 万元。

We have strengthened the protection of employees' rights and interests, contributed the required amount to workers' insurances and housing funds, standardized supplementary medical insurance, and synchronized employees' benefits with corporate development. We have further improved our incentives and disincentives, and deepened the salary distribution reform. The mid-to-long-term incentives were boosted. We have motivated employees by synchronizing salary increase with company performance. In 2018, paychecks totaled RMB 1,567.988 million, and social security contribution reached RMB 500.106 million.

推进民主管理

Promoting Democratic Management

集团不断加强组织建设和民主管理，研究制定集团工会组建方案，修订《职工代表大会管理办法》，审核“处僵治困”中民主管理程序，推动企业民主管理、维护员工合法权益与促进企业发展相统一。

We have improved employee organization and democratic management, developed plans to build a labor union, revised the *Rules on Managing the Worker's Congress*, and examined the democratic management procedures in the disposal of zombie and struggling companies. These efforts have coordinated management democracy and the protection of workers' rights and interests with Energy China Group development.



华东电力设计院召开 2018 年工作会议暨一届三次职工代表大会
East China Electric Power Design Institute Co., Ltd. hold the 2018 annual work conference (the third session of the first worker's congress).



东北电力设计院在长春市总工会 2018 年度先进职工之家评选中再次荣获先进职工之家称号
Northeast Electric Power Design Institute Co., Ltd. was again selected as one of the top employers in 2018 by Changchun General Union.



助力员工发展

Promoting Employee Growth

人才是企业发展的不竭动力。中国能建注重员工培养，构建顺畅的职业发展通道，加强员工职业规划管理，为员工提供丰富多样的技能培训，助力员工成长成才。

Talent is the undying force behind company development. We have attached high importance to human resource development, built smooth career tracks, strengthened career planning and management, and provided workers with diverse trainings. These have helped our employees grow.

加强员工发展研究

Improving Research on Employee Development

集团加强员工发展理论研究，帮助员工更好地发展，研究成果《重组企业转型期职工发展路径研究》获评中宣部“中国政研会 2017 年优秀政研成果奖”，获“中国电力政研会 2017 年优秀政研成果一等奖”。2018 年，集团拥有国家注册执业资格人才 11864 人，享受国务院政府特殊津贴专家 32 位、全国工程勘察设计大师 5 位、全国核工业工程勘察设计大师 2 位、新世纪百千万人才工程国家级人选 4 位、国家级突出贡献中青年专家 2 位。

We have strengthened the theoretical research on employee development to help them better grow. *Research on Employee Development During Company Transformation and Reorganization* won the CPC Publicity Department's "2017 Chinese Society of Ideological and Political Work Outstanding Research Award" and the first prize of the "2017 Outstanding Research Award" from the Seminar on Ideology of China Electric Power. In 2018, there were 11,864 nationally certified professionals, 32 State Council special allowance experts, 5 national engineering survey and design masters, 2 national nuclear engineering survey and design masters, 4 experts included in the National Hundred, Thousand and Ten Thousand Talent Project, and 2 young and middle-aged national experts with remarkable contributions.

加强培训培养

Strengthening Training

集团积极开展教育培训，按照《培训体系建设实施方案》，组建五大培训基地，构建覆盖全集团区域性培训服务平台。集团全年累计组织 26 个内部培训班，评定公司级内部培训师 320 名，参加外部培训 20 项，累计培训 6500 余人次。2018 年我们共培训 52 万人次，为企业改革发展提供智力支撑。

We have been active in conducting educational and training programs. Based on the *Plan for Building the Training System*, we have built five training bases and a regional training platform that covers the entire Group. In 2018, a total of 26 internal training classes were held, and 320 company-level internal trainers were designated. There were over 6,500 participants in 20 external training sessions. In the past year, training participants totaled 520,000. These trainings provided intellectual support for Energy China Group reform and development.

培育工匠精神

Cultivating Craftsmanship

集团积极组织员工参加国际、国家、行业层面的职业技能比赛，为更多员工提供学习平台。我们制定《职工技能竞赛管理办法》《劳模创新工作室管理办法》《“能建工匠”选拔管理办法》等制度，大力弘扬劳模精神和工匠精神，充分发挥示范引领作用，促进员工更好地成长。

We have frequently sent our employees to international, national, and industrial skill contests, to provide more learning opportunities for our employees. *The Rules on Managing Employee Skill Contests, Rules on Managing Role Model Innovation Workshops, and the Rules on Selecting Skilled Workers* were developed. We have advocated craftsmanship, and encouraged role models to lead others to better development.

CASE 案例

提升管理人员领导力, 打造精英队伍

Improving managerial leadership and building a team of elites

集团及所属企业加强对领导干部的培训培养，不断增强新时代整个集团的领导力，为迈进世界一流企业加强人才储备。

Energy China Group and our subsidiaries have strengthened the training for executives, so as to improve our leadership in this new era, and prepare for becoming a world-class enterprise.

加强精神建设：组织 6 期领导干部集中学习贯彻党的十九大精神轮训班，累计培训 400 余人。

Ideological development: 6 learning sessions on the guiding principles of the 19th CPC National Congress for executives were held with over 400 participants.

组织专项培训：组织董监事培训班，累计培训 40 余人；组织第四期年轻干部培训班，累计培训年轻干部 33 名。

Specialized training: Over 40 were trained in board and supervisor classes; 33 were trained in the fourth young executive training class.

强化外部培养：共选派 6 人次干部参加中央党校培训班、中国浦东干部学院培训班、中央企业中青班、中央党校国资委分校 2018 年春季直属班的培训。

External training: 6 executives were trained in the Party School of the Central Committee of the C.P.C, China Executive Leadership Academy Pudong, Central SOEs Class for Young and Middle-Aged Workers, and the 2018 spring training session of the SASAC division of the Party School.



广东火电国际人才库培训
Guangdong Power Engineering Co., Ltd. organizes an international employee training program.



扫一扫，请查看“员工故事——荒漠里的青春”
Scan QR code to read "Worker's Story—Youth in the Dessert"

1



全国五一劳动奖章 (项)
1 National May 1st Labor Medal

3



第十届全国电力职工技术创新成果奖一等奖 (项)
3 First Prizes of the Tenth National Electrical Staff Technological Innovation Award

4



中央企业先进集体 (个)
4 Advanced Units of Central SOEs

1



国家高技能人才突出贡献个人 (名)
1 National Highly Skilled Talent with Remarkable Contribution

2



全国三八红旗手 (人)
2 National March 8th Red-Banner Pacesetters

5



中央企业技术能手 (名)
5 Central SOEs Skilled Technicians

23



全国劳动模范 (人)
23 National Role Models

24



省级劳模荣誉 (个)
24 Provincial Role Models

32



2018 年“嘉克杯”国际焊接技能大赛团体金奖, 荣获一、二、三等奖 (项)
Gold Prize of Team Work and 32 First, Second, and Third Prizes in the 2018 Arc Cup International Welding Competition

8



中央企业劳动模范 (个)
8 Role Models of Central SOEs

25



全国技术能手 (位)
25 National Skilled Technicians

100



第三届优秀班组长 (个)
100 Third Outstanding Teams (Team Leaders)

保障健康安全

Safeguarding Health and Safety

职业健康安全是企业生产经营的必要保障。中国能建持续建立健全职业健康安全管理体系统，树立安全至上的意识，加强全员安全培训，为员工营造安全放心的工作环境。

Occupational health and safety are a prerequisite for business production and operation. Energy China Group has been committed to improving its management system for occupational health and safety, increasing safety awareness, strengthening safety training, and building a safe and reassuring workplace for all employees.

推进安全生产管理

Promoting Work Safety Management

2018年，集团以推进安全生产领域改革发展为主线，强化责任担当，筑牢管理基础，多措并举全方位加强安全生产工作，连续两年没有发生一般以上生产安全事故。

In 2018, we focused on deepening work safety reforms by further defining responsibilities, improving management, and taking multiple measures. No accident above general level has ever happened in the past two years.



加强安全生产培训

Strengthening Work Safety Training

集团加强安全生产培训，开展企业负责人和安监负责人轮训，实现所属二、三级企业党政主要负责人和安全生产主要管理人员培训全覆盖，不断提升安全生产责任意识和履职能力。

我们组织开展“安全生产月”、安全发展专题讲座等活动，各单位开展“一封安全家书”、VR实景安全培训等形式多样、内容丰富的安全教育活动，营造了全员注重安全的浓厚氛围。

We have strengthened work safety training. Rotational trainings were conducted to cover all the party committee leaders and the main work safety managers in secondary and tertiary subsidiaries. Safety awareness and safety performance have been improved.

We have organized “Work safety Month”, seminars on safe development, and other events. Subsidiaries have also conducted a diverse range of safety educational activities, including “A Family Letter on Safety” and VR safety trainings. All employees were indoctrinated about the importance of safety.

6



国家能源局认定为电力建设领域安全管理优秀成果（项）

6 programs selected by the National Energy Administration as Outstanding Programs of Safety Management in Power Engineering

3



一级成果（项）
3 First Class programs

2



二级成果（项）
2 Second Class

1



三级成果（项）
1 Third Class



广西工程局隧道现场应急演练
Guangxi Hydroelectric Construction Bureau Co., Ltd. holds an emergency drill on the tunnel construction site



西南院组织“安康杯”知识竞赛
Southwest Electric Power Design Institute Co., Ltd. holds the Safety and Health Cup Quiz

深化安全风险管控

Deepening Safety Risk Control

集团深化安全生产风险管控和隐患排查治理，修订发布总体应急预案和专项应急预案，严格落实安全风险分级管控责任制和安全风险管控措施，扎实开展安全生产隐患排查治理。

We have deepened safety risk control and hidden hazard examination, revised and issued the plans for general and specialized emergency response, and implemented the multi-level risk control responsibility system and various control measures.

2018年，我们组织开展了春季和秋冬季安全生产大检查、建筑施工安全专项治理行动等活动，促进安全生产措施严格落实。

In 2018, we organized major work safety checks in the spring, autumn, and winter, construction safety improvement, and other programs, to fully implement the work safety measures.

葛洲坝集团开展为期9个月的“查隐患、纠违章”专项活动，集中排查整治施工现场易发、多发事故隐患和违章行为。

China Gezhouba Group conducted a nine-month program to address the hidden hazards and safety violations on the construction sites that might lead to accidents.

安徽电建一公司实施安全违章黑名单管理，对违章人员按照累计计分分别实施学习教育、试岗3个月、直至清退出场等处罚措施。

Anhui No.1 Electric Power Construction Co., Ltd. implemented a safety violation blacklist program where violators received the following punishments in line with their scoring: training, three-month probations, expulsions, etc.

平衡工作生活

Balancing Work and Life

中国能建组织丰富多彩的员工活动，帮助员工平衡工作与生活，帮扶困难员工，关爱离退休员工，关心关爱员工，为员工营造舒适、舒心、温暖的工作环境和生活环境。

丰富精神生活

Enriching Cultural Lives

我们加强员工队伍建设，主动组织员工举办各种活动，不断丰富员工精神生活，在提升精神文化建设的同时帮助员工缓解工作压力，加强对员工心理疏导，营造轻松、愉悦的工作氛围。



江苏电建三公司组织“放飞青春 携手同行”青年交友联谊会
Jiangsu No.3 Electric Power Construction Co., Ltd. holds a youth sodality.



湖南火电组织健康行走活动
Hunan Power Construction Co., Ltd. holds a fitness walking event.

Energy China Group has organized diverse activities to help employees balance their life and work, assist the needy employees, and show care to the retirees. We aim at providing a comfortable, soothing, and loving workplace and living space for our employees.

We have strengthened team building among the employees and organized a variety of events for them to enrich their cultural lives, relieve their stress, address their mental distress, and create a relaxed and happy working environment.



山西院举办“新时代 新气象 新作为”2018年职工新春联欢会
Shanxi Electric Power Engineering Co., Ltd. holds the 2018 Staff Spring Festival Gala.



黑龙江院组织“弘扬传统文化 喜迎端午佳节”活动
Heilongjiang Electric Power Design Co., Ltd. celebrates the dragon boat festival.

关心关爱员工

Caring about Employees

我们及时了解员工生活实际情况，公司领导每年走访慰问员工生活和工作情况。主动为困难员工提供帮助，集团及所属单位持续开展“金秋助学”、困难员工慰问等活动，为困难员工提供必要的帮助，切实解决生活中的困难，提升员工幸福指数。

We are keen on understanding our workers' living and working conditions, and our executives visit the employees every year. We always take the initiative to help the workers in need—Energy China Group and the subsidiaries are constantly paying visits and giving schooling aids to those workers to provide them with necessary assistance, address their difficulties, and improve their happiness.



中国能建董事长汪建平一行到北京设备公司走访慰问员工
Chairman Wang Jianping and his delegation visit the employees of the Beijing Equipment Unit.

关爱离退休人员

Caring about Retirees

中国能建制定印发《集团公司退休人员社会化管理试点工作方案》，认真落实离退休人员待遇有关政策，及时为离退休员工送温暖。2018年，我们建立全集团11.91万名离退休人员基本信息数据库，加强离退休员工的管理和关爱。

Energy China Group has developed and issued the *Plan for the Pilot Program of Social Management of Retirees*. We are committed to implementing retiree-related policies and supporting our retirees. In 2018, we established a basic information database covering all of the 119,100 retirees, to strengthen our management and support.



葛洲坝五公司举办“增添正能量·共筑中国梦”离退休人员象棋交流赛
China Gezhouba Group No.5 Engineering Co., Ltd. holds a retiree Chinese chess contest.

保护农民工权益

Protecting Migrant Workers' Rights and Interests

中国能建将保障农民工工资支付作为重大政治责任、一把手工程来抓，印发了《关于进一步加强农民工工资支付管理的通知》，全面规范农民工工资支付行为，完善农民工工资代付、保证金、实名制、退场登记、考核、欠薪预警、信用体系建设、定期报告、舆情监控等系列管理工作，着力维护农民工合法权益。

Energy China Group prioritizes the management of migrant workers' payroll disbursement. We have issued the *Notice on Further Strengthening Migrant Workers' Payroll Management*, standardized payroll disbursement, and improved bank payroll service, security deposit, real-name registration, exit registration, appraisal, payment delay warning, credit system, regular reporting, opinions monitoring, etc., to fully protect the migrant workers' legitimate rights and interests.



芜湖电厂项目推行农民工工资代付工作
Wuhu Power Plant promotes the bank payroll service.

绿色发展，共建生态文明

Seeking Green Development and Jointly Building Eco-Civilization

发展背景

Background

- 我国已将生态环境保护纳入国家战略，政府明确提出“用严格的法律制度保护生态环境”，健全各项污染防治法律法规和政策，加强环境监管与环保执法力度。未来，环保工作执行不到位将成为企业面临的重大经营风险。
 - China has incorporated the protection of ecological environment into its national strategies. The government specified that it would “protect the environment with a rigorous legal system”, improve all laws, regulations, and policies on pollution prevention, and strengthen environmental supervision and law enforcement. Environmental non-compliance will become a major operational risk for companies in the future.
- 重视环保管理、绿色运营、污染防治、节能减排的企业将成为企业可持续发展的核心竞争力。深化企业改革，进行绿色转型升级，大力发展清洁能源与环保业务的企业将迎来重要发展机遇期。
 - Environmental management, green operation, pollution prevention, energy conservation, and emission reduction will become the core competitive edge for sustainable development. An important opportunity for development will come for companies that are deepening corporate reforms, undergoing green transformation, and developing clean energy and environmental business.

主要行动策略

Major strategic actions

- 发展清洁能源业务，发展绿色环保产业
Develop clean energy and environmental protection businesses
- 严格遵守国家生态环保法律法规，加强环境管理
Comply with national laws and regulations on environmental protection and strengthen environmental management
- 加大节能环保投入，应用先进环保技术
Increase investment in energy conservation and environmental protection and use advanced environmental technologies

关键议题

Key topics

- 绿色发展
Green Development
- 环境管理
Environmental Management
- 节能减排
Energy Conservation and Emission Reduction



推进绿色发展

Promoting Green Development

中国能建持续推进绿色业务多元化,发展新能源和环保业务,投资绿色环保产业,推进绿色转型升级和高质量发展。

Energy China Group has been diversifying its green business by developing new energy and environmental protection businesses and investing in environmental sectors, so as to promote green transformation and quality development.

发展清洁能源

Developing Clean Energy

中国能建积极发展布局风电、光伏、生物质发电等清洁能源项目,助力构建清洁低碳安全高效的能源体系。2018年重点推进多个新能源项目。

Energy China Group has an active presence in wind, solar, biomass power generation, and other clean energy projects, contributing to a clean, low-carbon, safe, and efficient energy system. In 2018, we focused on multiple new energy projects.

风电项目

Wind Power

内蒙古锡林郭勒盟50兆瓦、
广东49.9兆瓦风电场

50 MW Wind Farm in Xilingol
League, Inner Mongolia; 49.9
MW Wind Farm in Guangdong

光伏项目

PV Power

广东清远渔光互补、浙
江永嘉农光互补项目

Solar-fishing project in
Qingyuan, Guangdong;
Solar-farming project in
Yongjia, Zhejiang

生物质发电项目

Biomass Power

黑龙江绥化秸秆利用项
目、河南叶县生物质热电
联产项目

Straw power project in
Suihua, Heilongjiang; biomass
cogeneration project in Ye
County, Henan

已投产发电的新能源 投资项目

Operating New Energy Projects

辽宁康平光伏、湖南汝城白云
仙二期风电、广东南雄梓杉坳
风电场

Solar power in Kangping, Liaoning;
phase II wind power at Baiyunxian,
Rucheng, Hunan; wind farm in
Zishan'ao, Nanxiong, Guangdong

CASE 案例

投资建设粤北地区最大风电项目

Investing and building the largest wind farm in northern Guangdong

中国能建投资公司投资建设广东韶关南雄梓杉坳风电二期项目,该项目建成25台风力发电机组,总装机容量5万千瓦,投产后每年将为南雄贡献1.2亿度的清洁能源、7000万元无污染的GDP以及年平均1000万元的税收。项目一、二期风电产能相当于植树造林600公顷,为当地带来明显的节能减排效益。

China Energy Engineering Group Investment Co., Ltd. invested in the Phase II wind power project at Zishan'ao, Nanxiong, Shaoguan, in Guangdong Province. The project consists of 25 wind turbine generators with a total installed capacity of 50 MW. Upon operation the project will bring Nanxiong 120 GWh of clean energy, RMB 70 million of green GDP, and RMB 10 million of annual average tax to the government. The capacity of Phase I and II combined equals 600 hectares of afforestation, bringing significant energy conservation and emission reduction for the local community.



广东南雄风电场
Nanxiong Wind Farm, Guangdong

发展环保业务

Developing Environmental Protection Business

中国能建加速布局环保产业,打造绿色环保产业链。开展环境治理业务,投资建设循环经济示范产业园,探索循环经济发展之路。

We have stepped up our presence in the environmental sector and strive to develop a green industrial chain. We are exploring circular economy by offering environment treatment services and investing in circular economy demonstration parks.

环境治理业务

Environment Treatment Service

中国能建依托所掌握的土壤固化治理、淤泥污染治理、固废处理等技术和工艺,开展环境治理项目,业务涉及污水处理、河道整治、污泥处理、海泥处理、景观改造等环保工程建设。

Based on our technologies and processes for soil solidification, silt pollution treatment, and solid waste disposal, we have engaged in a range of environment treatment projects in water pollution treatment, waterway cleanup, silt disposal, sea mud treatment, landscape improvement, etc.



2018年10月,中国能建承建的湖北省武汉市矿山地质生态环境修复工程PPP项目开工。项目对武汉范围内多家矿山开展生态修复综合治理,进一步促进地方生态建设与经济可持续发展。

In October 2018, our PPP project for the restoration of the geology and ecology of the mines in Wuxue, Hubei. The project will comprehensively restore the environment of the mines in Wuxue, to improve the local ecology protection and promote economic sustainability.



2018年,集团所属葛洲坝水务运营公司温岭污水处理厂PPP项目通过环保验收,污水处理达到地表水IV类标准,实现稳定达标。

In 2018, the PPP project of the Wenling Sewage Treatment Plant of our China Gezhouba Group Water Operation Co., Ltd. passed the environmental acceptance testing. The treated sewage consistently reached surface water criteria Class IV.

推动循环经济

Promoting Circular Economy

中国能建积极探索循环经济发展之路,推进再生资源回收利用业务,基本形成了较为完善的再生资源回收网络布局,所属企业葛洲坝集团成为我国再生资源回收利用龙头企业,先后投资建设了淮安、老河口、怀远、淇县、广平等循环经济示范产业园。

We have actively explored circular economy to promote the recycling business. A mature recycling network has taken shape. China Gezhouba Group becomes now a national leading company in resource recycling industry. It has invested and built many circular economy demonstration industrial parks in Huai'an, Laohekou, Huaiyuan, Qi County, Guangping, etc.

CASE 案例

淮安循环经济示范园推动环保行业高质量发展

Huai'an Circular Economy Demonstration Park promotes high-quality development of the environmental protection industry

葛洲坝淮安循环经济示范园占地 330 亩，园区中再生 PET 瓶片生产线产能达 6 吨 / 小时，年处理量约 15 万吨，是目前世界最高产能的生产单线。该产业园在“长三角”区域市场占有率达到 3.5%，有助于引领环保产业规范化、高端化、高质量发展。

The Gezhouba Huai'an Circular Economy Demonstration Park covers an area of 330 mu (22 hectares). The capacity of its recyclable PET bottle flake line reaches 6 tons per hour and 150,000 tons per year. This line is the largest of its kind in the world. The Park has 3.5% market share in the Yangtze River Delta. It can lead the environmental sector to more standardized, high-end development of higher quality.



淮安循环经济示范园
Huai'an Circular Economy Demonstration Park

投资绿色产业

Investing in Green Industries

中国能建在绿色产业并购优质资产，通过投资实现在新能源、环保、水务等绿色产业布局，增强了绿色环保技术能力，拓宽了绿色业务市场。

We have acquired and merged high quality assets in the green industries. Through investments, we have built our presence in new energy, environmental protection, water, and other green sectors, improved our technical capabilities in green industries, and expanded the green business market.



葛洲坝绿园公司并购重组日照赛诺公司

China Gezhouba Group Lvyuan Technology Co., Ltd. acquires and reorganizes Rizhao Sainuo

- 完成安徽郎溪光伏、山西沁水风电、黑龙江宾县风电等新能源发电项目的股权收购。
- 葛洲坝集团以增资扩股 + 股权转让方式并购杭州华电华源环境工程公司，进一步延伸环保业务。
- 葛洲坝绿园公司以增资扩股方式并购重组日照赛诺公司，拓展水环境治理业务领域。
- We have completed the share acquisition of new energy power projects, such as the Langxi Solar Plant in Anhui, the Qinshui Wind Farm in Shanxi, and the Bin County Wind Farm in Heilongjiang.
- China Gezhouba Group completed the M&A of Hangzhou Huadian Huayuan Environment Engineering Co., Ltd. through share capital increase and equity transfer. This further expanded China Gezhouba Group's environmental business.
- With share capital increase, China Gezhouba Group Lvyuan Technology Co., Ltd. acquired and reorganized Rizhao Sainuo Environment Technology Co., Ltd., expanding its business in water environment treatment.

加强环境管理

Strengthening Environmental Management

中国能建遵循创新、协调、绿色、开放、共享五大发展理念，完善环境管理，提升环保意识，建设绿色企业。

Energy China Group adheres to the philosophy of innovative, coordinated, green, open, and shared development. We are committed to improving environmental management, raising environmental awareness, and building a green corporation.

提升环保意识

Raising Environmental Protection Awareness

中国能建开展各类环保宣传及培训活动，倡导绿色施工理念，提升员工和公众的环保意识，向社会传递绿色发展理念。督促所属单位参照《创建绿色施工示范项目工作指南》，开展绿色施工示范工程创建活动，对正在进行的工程项目加强监督指导，制定项目绿色施工目标、措施并监督落实。2018年，集团开展以“美丽中国，我是行动者”为主题的“世界环境日”活动和“全国节能宣传周”“全国低碳日”等活动，所属各单位通过网站、社交应用讨论群、板报、电子公告等多种途径，深入学习生态文明思想和五大发展理念，普及推广应用节能环保技术。

We have conducted a range of environmental publicity and training programs, to advocate green construction, make our workers and the public more eco-conscious, and convey our green message to the society. The subsidiaries were urged to follow *Guidance on Creating Green Construction Demonstration Projects*, build those projects, strengthen supervision and guidance in ongoing projects, set green construction goals, and implement the measures to achieve those goals. In 2018, we launched the "World Environment Day", "National Energy Conservation Week", and the "National Low-carbon Day" events. Through websites, social apps, blackboard presentations, electronic notices, etc., our subsidiaries deepened their understanding about eco-civilization and the new development philosophy. We have studied the environmental protection policy and work for the energy saving technology promotion.

完善环境管理

Improving Environmental Management

2018年，中国能建通过合规管理、制定规划、签订环保责任书、进行考核评比和监督等措施，进一步完善环境管理制度体系。集团所属各单位组织开展环保检查 200 余次，开展生态环境问题全面排查，动态识别环境因素和现场环保专项检查。

In 2018, we further improved our environmental management system through compliance control, planning, signing letters of environmental protection responsibility, appraisal, supervision, etc. Over 200 environmental checks were performed by our subsidiaries at all levels, to detect environmental problems on the construction site and dynamically identify environmental factors.



葛洲坝五公司泰济公路自营项目部举办“世界环境日”宣传日活动
The Jinan-Tai'an Highway Project team of China Gezhouba Group No.5 Engineering Co., Ltd. celebrates the World Environment Day.



促进节能减排

Promoting Energy Conservation and Emission Reduction

中国能建积极贯彻落实国家污染防治、节能减排各项要求，严格落实环保责任，在生产和运营中开展节能减排工作，为打好污染防治攻坚战贡献力量。

开展节能减排管理

Energy and Emission Management

中国能建不断完善节能减排管理，制定并发布相关管理制度，开展节能减排效果监测，加强固体废弃物管理，提高污染物排放管控。发布了《环境保护和节能减排管理规定》《环境保护和节能减排相关法律法规和政策制度指引》《环境保护和节能减排考核管理办法》等一系列节能环保管理制度，从管理、考核、资金与合规等层面完善管理；加强对节能减排效果监测；进一步开展固体废物管理和污染风险防控，不断优化排放物处理方式，提高资源综合利用率。

We have been improving our energy and emission management by developing and issuing management regulations, monitoring conservation and reduction performance, strengthening solid waste management, and improving discharge control. *The Rules on the Management of Environmental Protection, Energy Conservation and Emission Reduction, Guide on the Laws, Regulations, and Policies on Environmental Protection, Energy Conservation and Emission Reduction, Rules on Environmental Protection, Energy Conservation and Emission Reduction Appraisal Management, etc.*, were promulgated, to improve management, appraisal, financing, and compliance. Discharge disposal was further improved to increase the efficiency of resource utilization.

打造绿色工程项目

Building Green Construction Projects

中国能建践行低能耗、低排放、高效率的集约型发展方式，努力减少项目施工过程中对环境的负面影响。推动绿色施工管理，开展项目环境影响评价，淘汰落后设备，应用环保先进技术设备。

Energy China Group is committed to intensive development of low energy consumption, low emission, and high efficiency. We strive to reduce the environmental impact of our construction. We have promoted green construction management, carried out projects' environmental impact evaluation, eliminated obsolete equipment, and applied advanced eco-friendly technologies and equipment.

We have been actively implementing the national orders on pollution prevention, energy conservation, and emission reduction. We have been strictly fulfilling our environmental responsibilities and saving energy and reducing emissions in our production and operation, to contribute to the uphill battle against pollution.

CASE 案例

葛洲坝水泥成立能源管理中心

Energy management center established by CGGC Cement Co., Ltd.

为提高生产过程中的能源使用效率，2018年葛洲坝水泥有限公司成立能源管理中心。该中心建设项目完成后，一期可实现节能量38600吨标准煤/年，二期可实现节能量34181.74吨标准煤/年。

In order to increase the efficiency of energy use in production, CGGC Cement Co., Ltd. founded the Energy Management Center in 2018. The center could save 38,600 tons of standard coal of energy per year in phase I and 34,181.74 tons in phase II.

CASE 案例

严守扬尘治理行业标准

Strictly following the industry standards for dust control

中国能建所属广东火电工程有限公司在承建深圳市宝安垃圾焚烧发电厂三期工程项目过程中，严格遵守建筑行业扬尘治理“六个百分百”标准，加强施工现场扬尘污染控制。采取100%全封闭围挡，实施厂区行车道100%全硬化，安装出入口车辆冲洗设施，对易起尘作业面安排洒水车和雾炮机喷洒，在覆盖裸露土及易起尘地面安装TSP监测设备，有效控制扬尘对项目周边施工环境影响。

During the Phase III construction of Bao'an Waste-to-Energy Plant in Shenzhen, Guangdong Power Engineering Co., Ltd. strictly complied with the "six-100 percent" industrial standard of fugitive dust control for stronger dust management. The site was 100% enclosed and shielded; truck passages were 100% solidified; truck decontaminators were installed at access points; sprinklers and mist cannons were at work near dust-producing sites; TSP monitoring units were installed on exposed soil and dust-producing areas. As a result, fugitive dust was effectively controlled, and environmental impact minimized.

CASE 案例

绿色施工保护青藏高原“最后一块净土”

Green construction on the Tibetan Plateau

羌塘位于世界屋脊青藏高原腹地，是藏羚羊、藏野驴等濒危物种的栖息地，生态环境脆弱。中国能建所属甘肃省电力设计院承担的双湖——多玛110kV送电线路项目穿越羌塘自然保护区，为此甘肃院加强绿色项目管理，多措并举减少对环境影响。在勘测设计阶段详尽考虑环境因素，制定科学合理的勘测技术方案；在施工前加强对环境因素和环境敏感点识别，组织生态环保培训，提升施工人员环保意识；安排专人收集清理施工过程中产生的垃圾，做到在“最后一块净土”不留下任何痕迹。

Changtang is located at the center of "the Roof of the World"—the Tibetan Plateau. As the habitat for Tibetan antelopes, kiangs, and other endangered species, Changtang has a fragile ecosystem. The Shuanghu-Domar 110kV Power Transmission Project by Gansu Electric Power Design Institute Co., Ltd. runs across the Changtang natural reserve. The Institute has thus strengthened its green project management and taken various measures to minimize the environmental impact. Environmental factors were carefully considered during survey and design, to develop scientific survey plans; before construction, environmental sensitivities were further identified, and trainings were conducted to raise workers' eco-consciousness; people in charge were designated to collect and clean the waste produced during construction, so that no trace would be left on this "last clean land on earth".



双湖——多玛110kV送电线路项目建设者们正在清理垃圾
Shuanghu—Domar 110kV Power Transmission Project workers clean up waste.

开展绿色创新研究

Researching on Green Innovations

中国能建建立院士专家工作站、水务研究所、技术研究中心，提升绿色技术研发能力，积极开展节能环保技术创新和新能源、环保相关产业研究与咨询服务，推动绿色技术升级与应用。

We have built work stations for academicians and experts, water research institutes, and technological research centers, to improve our R&D capability for green technologies. We have launched research and consultancy services on energy and emission innovations, new energy, and environmental protection, to promote the upgrade and application of green technologies.

节能减排技术

Energy and Emission Reduction Technologies

- 中国能建各下属企业研发并形成具有自主知识产权的节能减排、循环利用技术
Our subsidiaries have developed proprietary technologies for energy conservation, emission reduction, and reuse and recycling.

- 开展火电机组节能技术改造，推进燃煤机组超低排放改造，助力电力行业节能减排技术升级
We have upgraded the technology of power plant units to save more energy, and renovated coal-fired units for ultra-low emission, to promote the technological development of energy conservation and emission reduction in the power industry.

绿色环保技术

Green Environmental Protection Technologies

- 聚焦固废处理、市政污泥处置、水环境综合治理等领域进行绿色技术创新并应用于环保产业，参与行业标准制定
We have focused on the green technological innovations in solid waste treatment, urban sludge disposal, comprehensive water environment treatment, etc., and applied those innovations to the environmental industry. We have also participated in developing the industrial standards.
- 利用全产业链业务优势，开展海上风电、储能、智慧能源等新能源相关业务研究。
Based on our presence in the entire industrial chain, we have conducted researches on offshore wind power, storage, smart energy, and other new energy business.

开放包容，携手共铸和谐

Joining Hands in Building Harmony, Inclusiveness and Openness for Industrial Development

发展背景

Background

- 创建世界一流示范企业是进一步推进国资国企改革、培育具有全球竞争力企业的重要抓手，对企业推动行业进步、加强对标学习与合作交流，提出了更高要求。
- 深化供给侧结构性改革要求企业加快供应链创新，在现代供应链等领域培育新增长点、形成新动能，为我国发展转型升级提供助力。
- An important priority in deepening SOEs reforms is to create world-class model enterprises with global competitiveness. This requires companies to work harder in driving industrial advances and learning, communicating, and cooperating with each other.
- To deepen supply-side structural reforms, companies should speed up supply chain innovation, and foster new growth areas and engines in modern supply chain management. Companies should jointly contribute to transforming China's development approaches.

主要行动策略

Major strategic actions

- 主导或参与国际、国家和行业标准制定，加强行业技术研发
Lead or participate in the development of international, national, and industrial standards, and strengthen technological innovations in the industry
- 参与各类行业合作交流活动
Engage in the activities for industry-wide cooperation and exchange
- 加强供应链管理，推动供应商负责任发展
Strengthen supply chain management and promote the responsible development of suppliers

关键议题

Key topics

- 行业进步
Industrial Advances
- 供应链管理
Supply Chain Management



助力行业发展

Promoting Industrial Development

中国能建凭借领先的技术水平和卓越的创新能力，积极参与行业共建，组织或参与行业标准制定，推进行业沟通交流与合作，为助力行业高质量、可持续发展贡献力量。

With its leading technologies and strong innovative capability, Energy China Group has been an active participant in industrial development. We have organized or participated in developing industrial standards and promoted industrial exchanges and co-operation, contributing our share to high quality and sustainable industrial development.

参与行业共建

Engaging in Industrial Development

中国能建依托雄厚的规划咨询研究实力，开展国家电力、能源发展战略与规划以及产业政策、行业管理等方面的研究，为政府部门规划行业发展、强化行业管理提供可信赖的技术支撑，规划咨询成果受到政府部门高度认可，国家在中国能建所属企业批准设立了一批规划咨询机构。

With our strength in planning, consultancy, and research, we have conducted researches on the strategies and plans for national power and energy development, industrial policies, and industrial management. We have provided the government with reliable technological support on industrial development planning and industrial management. Our consultancy services have been highly recognized by the government. A range of planning and consultancy institutions approved by the government have been established in our subsidiaries.

国家批准设立的机构：

Nationally approved institutions include:

- 国家电力规划研究中心
National Power Planning and Research Center
- 中国火电灵活性协作平台
Cooperation Platform for Thermal Power Flexibility Improvement in China
- 国家电力工程造价发布牵头单位
The leading organization to publish the engineering costs of electric power projects
- 全国新能源消纳监测预警中心
National New Energy Consumption Monitoring and Early Warning Center
- 电力规划设计标准化管理中心
Standardization Management Center of Electric Power Planning & Engineering
- 燃料电池发电技术创新协作平台
Cooperation Platform for Fuel-Cell Power Generation Technology Innovation
- 国家能源局咨询基地
Consultancy Base of National Energy Administration
- 国家 700°C 超超临界发电技术创新联盟
National 700°C Ultra Super-Critical Coal-fired Power Generation Technology Innovation Alliance

开展的国家产业政策研究：

Researches on national industrial policies cover the following areas:

- 输配电体制改革研究
Research on Transmission and Distribution System Reform
- 煤电建设风险预警机制研究
Research on Risk Pre-warning Mechanism of Coal-Fired Power Construction
- 煤电节能减排升级与改造行动计划
Coal-Fired Power Plant Renovation for Energy Conservation and Emission Reduction
- 热电联产产业政策研究
Research on Cogeneration Policy
- 电动汽车充电设施指导意见研究
Research on Electric Vehicle Charging Facilities Guidance
- 西电东送规划研究
Research on China's West-to-East Power Transmission Project
- 煤电基地科学有序开发研究
Research on Orderly Development of Coal-Fired Power Bases
- 核电规划相关问题研究
Research on Nuclear Power Planning
- 燃煤耦合生物质发电产业政策研究
Research on Coal and Biomass Co-Firing Policy

建设全国新能源消纳监测预警中心

National New Energy Consumption Monitoring and Early Warning Center established

2018年4月，全国新能源消纳监测预警中心在中国能建所属电力规划设计总院挂牌成立。全国新能源消纳监测预警中心由电规总院在国家能源局的指导下设立，全面负责全国新能源电力消纳监测预警平台的建设、运行和管理工作。中心将建立电网企业、发电企业、技术机构多方参与的公益性、开放式、专业化的信息平台，对全国各地新能源消纳状况进行监测、预警，运用科学方法定量预测新能源消纳前景，为国家优化新能源发展规模和布局提供科学决策依据。

In April 2018, National New Energy Consumption Monitoring and Early Warning Center was founded at the EPPEI. Founded by the Institute under the guidance of the National Energy Administration, the Center is responsible for building, operating, and managing the titular platform. This open and specialized digital platform for public interests will gather grid companies, power businesses, and technological institutions to monitor and warn on the use of new energy across China, and forecast energy use with quantitative methods. It will provide a scientific basis for national decision-making on the development and planning of new energy.



制定行业标准

Developing Industrial Standards

中国能建积极组织或参与国际、国家和行业标准制定，2018年编制完成国际标准3项、国家和行业标准86项。所属单位电力规划设计总院是国家能源局指定的能源领域行业标准化管理机构，为切实履行电力规划设计国家和行业标准化管理工作职责，成立了电力规划设计标准化管理中心，是电力规划设计总院领导下的电力规划设计行业标准化管理部门。

Energy China Group is active in organizing or participating in the development of international, national, and industrial standards. In 2018, we developed 3 international standards and 86 national and industrial ones. EPPEI is designated by the National Energy Administration as the organization for standardization in the energy sector. To fully fulfill its obligations, EPPEI founded the Center for Standardization in Electric Planning and Design.

全球首部《塔式太阳能光热发电站设计标准》正式发布

World's first Standard for Design of Solar Power Tower Plant released

2018年8月，中国能建主编的全球首部《塔式太阳能光热发电站设计标准》正式发布，于2018年12月1日起正式实施。该标准是国际上第一部关于太阳能光热发电站设计的综合性技术标准，反映全球太阳能光热发电领域的最新设计理念、要求和技术水平，为我国塔式太阳能光热发电站设计提供依据，增强中国在太阳能光热发电行业的国际话语权，为“一带一路”太阳能光热发电项目建设提供了支撑和保障。

In August 2018, the world's first *Standard for Design of Solar Power Tower Plant*, with Energy China Group as its chief editor, was officially published. Effective since December 1, 2018, the document is the first comprehensive technological standard on the design of solar power towers in the world, reflecting the latest design philosophies, requirements, and technologies. A basis for designing solar power towers in China, the Standard has increased our voice on solar power tower in the world and supported solar power tower projects along the Belt and Road.

促进交流合作

Promoting Exchange and Cooperation

中国能建注重推进行业经验分享与交流合作，通过搭建国际交流合作平台、发布电力能源行业发展报告、组织或参与国内外大型行业交流合作会议等多种方式，积极促进行业内及跨行业合作发展。

We have promoted the industrial practice sharing, exchanges and cooperation. By building platforms for international exchanges and cooperation, publishing power and energy reports, and organizing or participating in large-scale industrial conferences at home and abroad, we have promoted cooperation in and between industries.

搭建国际能源合作平台

International Energy Cooperation Platforms

- 国际能源署 (IEA) 中国联络办公室
IEA's China Liaison Office
- 中芬能源合作平台等国际合作平台
China-Finland Energy Cooperation Platform
- 联合国亚太经社会 (ESCAP) 能源委员会互联互通专家工作组中方秘书处
China Secretariat, Expert Working Group on Energy Connectivity, Committee on Energy, UN ESCAP
- 中国 - 中东欧 16+1 能源项目对话与合作中心中方秘书处
China Secretariat, China-Central and Eastern Europe Countries 16+1 Center for Dialogue and Cooperation on Energy Projects
- 中国参与 APEC 能源合作伙伴网络新能源和可再生能源专家组国内对口单位
China Liaison Organization, Expert Group on New Energy and Renewable Energy, APEC Energy Partnership Network

组织参与国际交流活动

International Exchange Events

- 组织举办了“一带一路”能源部长会议、中国 - 中东欧国家能源合作第一次技术交流活动、亚洲能源转型与安全合作论坛等国际会议；
We organized the Belt and Road Energy Ministerial Conference, the First Technology Conference on Energy Cooperation in the China-Central and Eastern European Countries, Asia Energy Security and Transition Cooperation Forum, and other international events.
- 参与组织了联合国亚太经社会第二届亚太能源论坛、第九届清洁能源部长级会议、第 55 届亚太经合组织能源工作组 (APEC EWG) 会议 APEC 能源工作组会议、第九届国际基础设施投资与建设高峰论坛等国际会议及行业峰会；
We co-organized the UN ESCAP Second Asian and Pacific Energy Forum, the Ninth Clean Energy Ministerial Conference, the 55th APEC EWG Conference, the Ninth International Infrastructure Investment and Construction Forum (IIICF), and other international conferences and industrial summits.
- 参加中非合作论坛北京峰会、第三届“一带一路”高峰论坛、“连通‘一带一路’，共拓发展机遇”高层圆桌会议等国际会议。
We participated in the 2018 Beijing Summit of the Forum on China-Africa Cooperation, the Third Belt and Road Summit, the “Belt and Road Connectivity for Development Opportunities” High-Level Roundtable, and other international events.

发布《中国能源发展报告 2017》《中国电力发展报告 2017》

China Energy Outlook 2017 and China Power Outlook 2017 released

2018 年 4 月 11 日、5 月 18 日，中国能建所属企业电力规划设计总院分别发布了《中国能源发展报告 2017》《中国电力发展报告 2017》，这是电规总院连续第二年发布中国能源、电力发展报告。

On April 11 and May 18, 2018, EPPEI published the *China Energy Outlook 2017* and *China Power Outlook 2017* respectively, for the second year in a row.

《中国能源发展报告 2017》聚焦我国能源发展的主要矛盾，全面反映了一年来能源发展成绩和不足，直击能源行业的热点、焦点、难点，探讨问题、提出建议、给出对策，同时对未来能源发展提出了展望和建议。《中国电力发展报告 2017》从多个方面对我国电力发展状况进行全面梳理和综合归纳，预测未来三年电力需求，提出电源、电网发展展望，深入解读重点行业政策，展望电力改革重点，分析判断未来三年电力工程造价变化趋势，深入剖析新能源消纳、电力现货市场建设等热点焦点问题。

China Energy Outlook 2017 focused on the main conflicts in China's energy development, showed China's achievements and weaknesses in 2017, discussed and provided solutions to the problems and difficulties in the energy sector, and offered suggestions on China's future energy development. *China Power Outlook 2017* summarized China's power development, forecasted the power demand in the coming three years, and predicted the future power and grid development. The report also provided insights on key industrial policies, the focuses of power reforms, the trends of power construction costs in the coming three years, and hotspot issues such as new energy use and the spot market for electricity.

CASE 案例

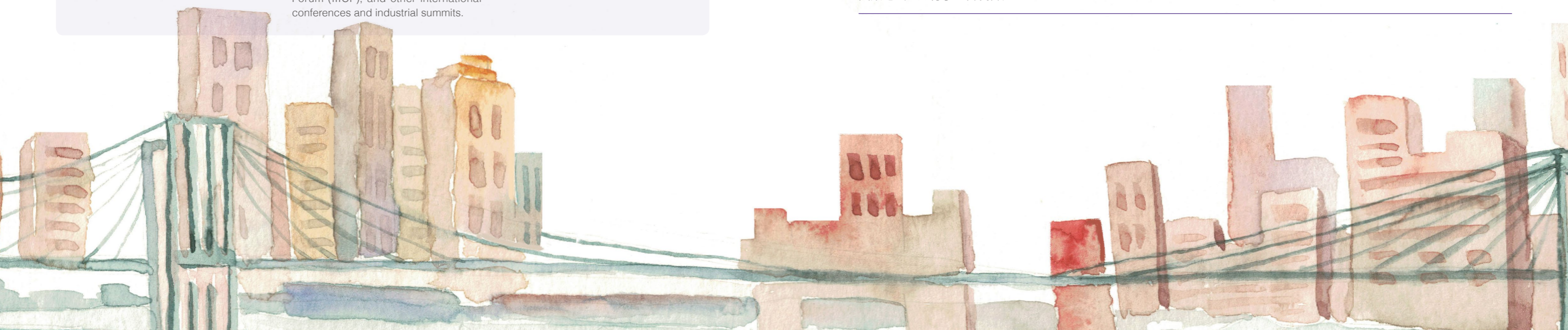
承办“一带一路”能源部长会议

Organizing Belt and Road Energy Ministerial Conference

2018 年 10 月 18 日，由国家能源局主办，中国能建所属企业电力规划设计总院承办的“一带一路”能源部长会议在苏州市召开，来自全球 29 个国家能源部长和 7 个国际组织高级官员、53 家中外知名能源企业负责人等出席。本次会议以“共建‘一带一路’能源合作伙伴关系”为主题，围绕共建“一带一路”能源合作伙伴关系、未来能源、加强能源投资便利化等议题展开讨论，并发布《共建“一带一路”能源合作伙伴关系部长联合宣言》。中国能建董事长汪建平受邀在会议圆桌论坛上进行了主旨发言。

On October 18, 2018, the Belt and Road Energy Ministerial Conference opened in Suzhou. Hosted by the National Energy Administration and organized by EPPEI, the Conference was attended by 29 national energy ministers, 7 senior officials from international organizations, and 53 executives from renowned energy companies at home and abroad. Under the theme of “Building Belt and Road Energy Partnership”, discussions were made on partnership building, future energy, energy investment facilitation, etc. A *Joint Ministerial Declaration on Building the Belt and Road Energy Partnership* was published. Wang Jianping, Chairman of Energy China Group, was invited to give a keynote speech at the roundtable forum.

CASE 案例



强化供应链管理

Strengthening Supply Chain Management

中国能建不断完善供应链管理，坚持责任采购，加强供应商考核，与供应链上下游企业一起打造廉洁透明、友好合作、互利共赢、负责任的供应链关系。

We have been improving our supply chain management, sticking to responsible procurement practices, and strengthening supplier evaluations, to build an honest, transparent, friendly, cooperative, win-win, and responsible supply chain with the upstream and downstream companies.

完善供应链管理

Improving Supply Chain Management

集团从招标、分包、采购等方面完善供应链管理，创新工作模式，打造阳光、透明、高效、负责任的供应链体系。我们积极开展境外工程采购管理工作，按照“一个平台、一批信息、一个制度、一组模板、一本案例集”的“五个一目标”开展境外工程采购管理提升试点，并逐步扩大试点工作方案研讨，加强国际项目采购管理。天津电建形成“境外采购全过程数据价值管理”模式。

We have improved the supply chain management in tender, sub-contracting, and procurement, and updated our methodology, to create a positive, transparent, efficient, and responsible supply system. We are also active in strengthening our international procurement management by conducting the pilot program to “create a unified platform, system, and template for information processing and produce a portfolio of successful practices”. Tianjin Electric Power Construction Co., Ltd. has established a system to manage all the data throughout overseas procurement.

招标管理 Tender Management

- 修订招标管理制度，修订并印发《中国能源建设股份有限公司招标管理规定》，增加对公开招标、不招标的适用条件、处理流程和决策程序，以及招标制度的备案要求。根据修订后的规定，对所属企业新修订的招标管理制度进行备案

Revised the rules on tender management; revised and promulgated the *China Energy Engineering Corporation Limited Rules on Tender Management*, with the additions of the conditionalities for open tender and non-tender, the handling procedures and decision-making processes, and the documentation of tender rules; filed subsidiaries' revised tender rules based on the above revisions

分包管理 Subcontracting Management

- 深入调研、征集 29 家单位分包管理经验和建议，召开征求意见稿专题研讨会，组织总部相关部门及所属单位 85 名专家对《工程施工承包项目分包管理规定》的严谨性、针对性及可操作性进行深入研讨，高质量编发《工程施工承包项目分包管理规定》

Surveyed 29 subsidiaries and collected their subcontracting best practices and suggestions; held seminars on the drafts of the *Rules on Construction & Engineering Subcontracting Management*; mobilized 85 experts from corporate departments and subsidiaries to study whether the Rules were rigorous, targeted, and feasible; developed and promulgated the Rules at great quality

- 修订完善《军民融合设施建设工程项目管理办法》和《采购分包协同实施细则和评价标准》，进一步加强分包管理和项目管理，树立项目管理新标杆

Revised and improved the *Rules on the Management of the Engineering & Construction of Military-Civilian Facilities* and the *Implementation Rules and Evaluation Criteria for Coordinated Procurement and Subcontracting*, to further strengthen subcontracting and project management and create new examples of fine project management

采购管理 Procurement Management

- 不断完善集团级集中采购项目管理体制，成立集中采购管理委员会，编制集中采购管理委员会的议事规则，制订并发布 2018 年度集团级集中采购年度计划，稳步推进集团级集中采购工作

Improved Energy China Group centralized procurement management system; founded a centralized procurement management committee, developed the committee rules, made and issued the 2018 Group Centralized Procurement Plan. These efforts steadily improved the centralized procurement at Energy China Group level

CASE 案例

规范采购管理, 加强供应商考核

Stronger procurement management and supplier evaluation

中国能建加强采购管理，主动对标交流电商平台建设、电子招标采购等经验做法，开展现场督导检查，借助审计、巡视等外部监督活动，督促和指导所属单位规范采购行为。2018 年，完成 13727 家供应商考核评价工作，审核发布集团级供应商黑名单 40 家，共同打造阳光透明的采购环境。

To strengthen our procurement management, we have been benchmarking with the best practices in e-commerce and electronic bidding, conducting on-site inspections, and supervising and guiding our subsidiaries' procurement with external auditing and inspection tour. In 2018, we evaluated 13,727 suppliers, and added 40 suppliers to our corporate blacklist, to create a positive and transparent environment for procurement.



优秀供应商表彰大会

Top Suppliers Award Ceremony

加强信息化采购

Strengthening Digital Procurement

集团不断完善采购平台，规范采购流程，加强透明、高效的信息化采购平台建设，聚力打造以电力建设领域为基础、面向建筑行业的全品类国际化采购平台，为培育良性的央企电商供应链生态贡献力量。2018 年，中国能建电子采购平台上线采购超过 80000 批次，工程招标超过 10000 批次，组织完成集团级集中采购项目 10 批次。

We have been improving our platform and processes for procurement. We aim at building a transparent and efficient international procurement platform that covers all categories in the construction industry, especially electric engineering, to help build a virtuous electronic supply chain for Central SOEs. In 2018, our electronic procurement platform processed over 80,000 procurement orders, over 10,000 project biddings, and 10 centralized procurement projects at the corporate level.

开展《采购供应链规划方案》编制工作，加强中长期采购信息化平台建设的规划
Started the development of the *Procurement Supply Chain Plan* and improved the mid to long-term planning for the digital procurement platform

Improved Digital Planning 加强信息化规划

开展采购金融服务，建立与京东、苏宁等电商战略合作，提升集团集中采购工作
Started financial services for procurement, and partnered with e-commerce players such as Jingdong and Suning, to improve corporate procurement

Expanded Supply Chain Management 拓展供应链管理

探索创新实验区域联采、单位集采实招等新的集中采购方式
Explored new centralized procurement methods, including regional or subsidiary integrated procurement

Innovated Procurement Methods 创新采购方式

推进标准化建设

Promoted Standardization

- 组织编制《采购标准化模板（设备篇）》
Developped the *Standardized Procurement Templates (Equipment)*
- 开发货物、服务、设备标准化模板自动生成系统，已形成 297 个采购文本标准化模板
Developped the automatic systems for generating standardized cargo, service, and equipment templates with 297 procurement textual templates

统一电子采购平台

Unified E-Procurement Platform

- 推动葛洲坝集团所属单位在中国能建电子采购平台开展采购业务
Encouraged China Gezhouba Group's subsidiaries to procure on the Energy China Group E-Procurement Platform
- 基本实现全集团采购管理工作“统一平台，统一管理”
Basically unified the platform and management for all procurement in Energy China Group

关怀民生，共享幸福生活

Caring about People's Livelihood and Jointly Creating a Happy Life

发展背景

Background

- 党的十九大提出“增进民生福祉是发展的根本目的，必须多谋民生之利、多解民生之忧。”企业在发展中助力促进社会公平正义，开展公益慈善与民生工程，增加利益相关方的获得感与幸福感。
- The 19th CPC National Congress pointed out: "the wellbeing of the people is the fundamental goal of development. We must do more to improve the lives and address the concerns of the people." Companies should launch charity programs and public service to improve people's wellbeing, better social equity and justice, and enhance stakeholders' satisfaction and happiness during their development.
- 企业海外运营过程中，在追求利益的同时兼顾他国利益相关方合理关切，助力属地社区发展、社会公益事业，是企业海外稳健运营的必要途径。
- While pursuing their own interests in overseas business, companies should also pay attention to the legitimate concerns of the local stakeholders. Contributing to local development and charity undertakings is indispensable for stable overseas operations.

主要行动策略

Major strategic actions

- 聚焦社区发展、社区关爱活动，倡导各方积极参与社区共建
Focus on community development and community care; encourage all parties to jointly build communities
- 积极投入公益慈善活动，帮助弱势群体
Participate in charity programs to help the vulnerable groups
- 投入抢险救灾，为国内外项目所在地灾民解决生活困难
Assist with disaster relief to address the local's difficulties in stricken areas both at home and abroad
- 推进履行海外社会责任，加强海外社区沟通，与当地社区共建责任共同体
Promote CSR fulfillment overseas and strengthen the communications with overseas communities to build a community of shared responsibility

关键议题

Key topics

- 社区共建
Community Harmony
- 公益事业
Public Welfare
- 应急救援
Emergency Relief
- 海外履责
CSR Fulfillment Overseas



参与社区共建

Building Communities with Locals

中国能建积极参与社区共建，向所在社区投入各类资源，组织员工参与社区公益活动，帮助利益相关方进行能力建设，为推动和谐社区发展贡献一份力量。

Active in community development, we have provided local communities with resources, engaged employees in community charity programs, and helped stakeholders with capacity building, all for a more harmonious community development.

帮助边疆地区党员进行能力建设

Capacity Building for Party Members in Border Areas

在新疆策勒县，中国能建新疆院积极参与“访惠聚”活动，捐赠党费 10 万元助力策勒县策勒镇 4 个村党员教育和培训，助力新疆地区社会稳定。

In Cele County, Xinjiang Electric Power Design Institute donated RMB 100,000 to promote the Party member education and training in four villages in Cele Town for better social stability in Xinjiang.

与社区开展“共治共建共享”活动

Diverse Community Activities

中国能建广东火电与广州黄埔火电社区开展“共治共建共享”活动，开展小区居民健康讲座和关爱活动 24 场，举办“关心独居空巢老人”活动、为老年人提供免费午餐场地。

Guangdong Electric Power Engineering (GEPE) Co., Ltd., along with the Guangdong Huangpu Power Community, launched the “Joint Development and Governance for Shared Results” campaign. 24 health lectures and care activities were held for the residents. Especially in senior citizens care, GEPE organized activities on empty-nest elderly and provided a free lunch center to senior resident who live in the community.

为新疆中学生建设爱国主义教育基地

Patriotic Education Base for Middle School Students in Xinjiang

中国能建电规总院出资 21.6 万元帮助新疆生产建设兵团第 47 团中学建设爱国主义教育基地，增强了民族地区学校学生对国家和民族的认同感、自豪感，受到当地政府和学校的高度评价。

EPPEI invested RMB 216,000 to help the Middle School of Regiment No. 47 of the Xinjiang Production and Construction Corps build a patriotic education base. The base, which has helped the students identify with and take pride in the country and their ethnic group, was applauded by the local government and the schools.

热心公益事业

Engaged in Public Welfare Campaigns

中国能建积极开展社会公益活动，参与捐资助学，帮扶社会弱势群体，组织各类志愿者活动，向公众普及电力知识，为共建和谐社会贡献能建力量。

We have been active in a range of public service campaigns, including providing financial aid for schools, organizing volunteer activities, educating the public on power, etc. Our efforts have contributed to a more harmonious society.

捐资助学

Financial Aid for School

中国能建西南院举办“青春力量温暖童心”爱心捐赠活动，发动青年员工为四川凉山州雷波县莫红中心乡马处哈村幼儿园筹集 500 余件办学物资，帮助贫困山区减轻办学资金压力。

Southwest Electric Power Design Institute Co., Ltd. held a donation where young employees donated over 500 sets of schooling supplies for the kindergarten in Machuha Village, Mohong Central Town, Leibo County, Liangshan Prefecture, Sichuan, to reduce financial pressure the school in this poverty-stricken area.



“青春力量温暖童心”爱心捐赠活动现场
Kindergarten donation

开展志愿服务

Organizing Volunteer Activities

中国能建规划设计集团江苏院开展“改革开放四十年温情重阳暖人心”活动，组织青年员工志愿者前往南京市鼓楼区社会福利院，将爱心送到老人们身边。

On the occasion of 40th anniversary of China's reform and opening up, Jiangsu Electric Power Design Institute Co., Ltd. sent young employees volunteers at the Gulou District Social Welfare Institute, Nanjing, to look in senior citizens.



志愿者带老人们玩射箭小游戏
Volunteers are helping the senior citizens play arrow game.

宣传电力科普知识

Educating the Public on Power

中国能建洛斯塔公司参加 2018 首届“电力之光”中国电力科普日活动，以“特高压输变电工程漫游体验”为主题，展示了中国特高压工程建设现状以及特高压输电线路、南阳 1000kV 变电站、泰州换流站等漫游场景，为万余名民众普及特高压知识。

中国能建陕西院组织青年志愿者前往西安市儿童福利院，向“苹果班”的小朋友送去“六一”儿童节的祝福。

Shaanxi Electric Power Design Institute Co., Ltd. sent young employees volunteers to celebrate the Children's Day with the children in the “Apple Class” of the Xi'an Welfare Institute on Children's Day.



中国能建陕西院员工与西安市福利院儿童在一起
Employees with children in Welfare Institute.

China Energy Group North-Star Remote Sensing Technology Co., Ltd. participated in the 1st “Light of Power” popular science campaign in 2018 themed with “Know More about Ultra-High-Voltage (UHV) Transmission and Transformation Project”, which showcased China's current achievements in UHV projects and created an opportunity to tens of thousands of people to get basic knowledge on UHV transmission circuit, the 1,000kV transformer station in Nanyang and the converter station in Taizhou.

参与应急救援

Involving in Emergency Relief

面对突如其来的自然灾害，中国能建发挥专业优势积极投入抢险救灾行动，帮助灾区尽快恢复生产生活。

In the face of unexpected natural disasters, we provide professional assistance to rescue actions, to help the stricken populations resume their work and life as soon as possible.

CASE 案例

金沙江堰塞湖抢险

Jinsha River Landslide Dam Emergency Rescue

2018年11月3日晚，川藏交界的金沙江白格堰塞湖附近出现山体滑坡，造成金沙江断流形成堰塞湖。中国能建葛洲坝集团紧急启动应急预案，立即成立应急抢险小组，公司总部和施工现场管理人员24小时值班待命，投入设备111台套，包括用于除险加固设备55台套、用于转移人员车辆41台，组织两岸施工人员及设备撤离至安全地带。

On the night of November 3, 2018, a landslide occurred near the Baige Village at the border of Sichuan and Tibet, forming a landslide dam that cut off the Jinsha River. China Gezhouba Group took immediate contingency measures and formed an emergency relief task force where managerial staff from the headquarters and the construction site stood by 24 hours a day. 111 sets of equipment were mobilized, including 55 sets for dredging and reinforcement and 41 vehicles for evacuation. Construction workers and equipment along both sides of the dam were orderly evacuated to safe areas.

推进海外履责

Boosting CSR Fulfillment Overseas

中国能建在“一带一路”沿线国家开展业务的同时，积极推进属地化运营，在当地开展助学和公益慈善捐助活动，投入基础设施建设，为当地社区创造综合价值。

葛洲坝集团积极推行人才国际化、海外机构员工属地化管理。提升项目所在地基层岗位员工比例，通过培训和日常工作考核不断提高劳工技能。截至2018年底，公司国际在建项目从业人员26252人，其中中方5083人，外方21169人，属地化比例达80.6%。

For our business in the countries along the zone of Belt and Road, we are committed to localized operations. We have provided comprehensive value for the local communities by providing support to local schools, launching charity programs, and building infrastructure.

China Gezhouba has been committed to talent globalization and the localized management of overseas employees. Energy China Group aims at increasing the percentage of local staff in junior positions and constantly improving the staff's labor skills through training and daily performance review. By the end of 2018, 26,252 employees were working in international projects under construction, including 5,083 Chinese employees and 21,169 local employees, which stands for a localization rate of 80.6%.

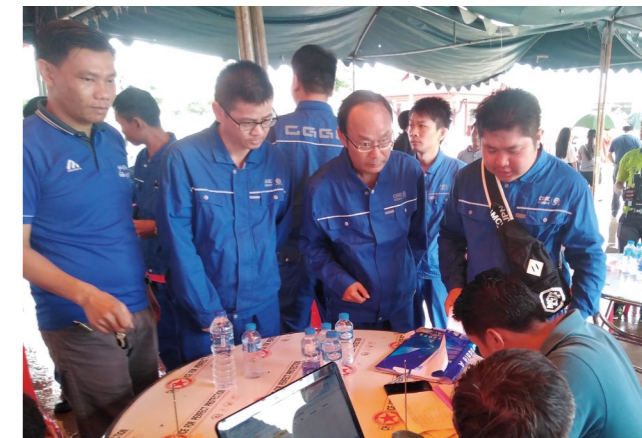


参与老挝抢险救灾

Disaster relief in Laos

2018年7月23日晚，老挝东南部阿速坡省的一座在建水电站发生溃坝事件，水灾造成数百人失踪，6,600余人流离失所。灾情就是命令，7月24日下午，由班哈项目部组成的志愿者采购价值老挝币6,000万基普的饮用水、食品、棉被、帐篷等共200份救灾物资，在第一时间发放给灾民，体现中国能建的无私大爱。

On the night of July 23, 2018, a dam failure occurred during the construction of a hydropower station in Attapeu Province in south-eastern Laos. The disaster led to that hundreds of people were missing and over 6,600 people were displaced. To answer the call of the emergency, in the afternoon of November 24, volunteers of the local project team purchased 200 sets of relief supplies worth 60 million Lao kip, including drinking water, food, blankets and tents. The supplies were immediately delivered to the stricken population—showing our selfless philanthropy.



统计并发放救灾物资
Counting and distributing relief supplies

CASE 案例

在巴基斯坦开展助学活动

Supporting a drawing contest in Pakistan

2018年8月7日，由中国能建所属天津电建和规划设计集团西北院联合总承包的巴基斯坦胡布项目在当地俾路支省胡布镇 TCF 小学举办了“共绘家乡美”巴基斯坦籍少儿绘画比赛。共有100多名小朋友用画笔记录了电站建设给当地带来的变化，描绘出中巴“一带一路”合作的美好愿景。

On August 7, 2018, Tianjin Electric Power Construction Co., Ltd. and Northwest Electric Power Design Institute Co., Ltd. held a Pakistani children drawing contest at the TCF Primary School in Hub Town, where their project was located. Over 100 children recorded the changes brought about by the local power stations in their drawings, which depicted the beautiful cooperation between China and Pakistan on the Belt and Road Initiative.



学生们展示绘画作品
Students showcasing their drawings

CASE 案例

完善约旦社区基础设施建设

Improving infrastructure for Jordanian communities

中国能建广东火电约旦阿塔拉特页岩电站项目以促进当地经济发展、增进两国人民友谊为宗旨，积极履行社会责任，与业主阿塔拉特电力公司（APCO）共同为当地社区学校捐赠图书，捐建一座800平方米花园并组织义务修缮活动，获得当地教育部门颁发的荣誉证书。

To promote the local economic development and improve the friendship between the two peoples, Guangdong Power Engineering Co., Ltd. has been active in fulfilling its CSR in the Attarat oil shale power plant project. The company worked with the plant owner, Attarat Power Company (APCO) in donating books to the local schools, building an 800 m² garden, and organizing voluntary maintenance. Such efforts won the company a certificate of honor from the local education department.

责任绩效

CSR Performance

指标大类 Category	绩效指标 Performance indicators	2018	2017	2016
市场绩效 Market Performance	资产总额 (亿元) Total Assets (RMB 100,000,000)	3,965.54	3,557.83	3,070.34
	负债总额 (亿元) Total Liabilities (RMB 100,000,000)	2,973.33	2,697.87	2,281.87
	所有者权益 (亿元) Investors Equity (RMB 100,000,000)	992.21	859.96	788.47
	净资产收益率 (%) Return on Equity (%)	9.56	10.14	10.20
	总资产报酬率 (%) Return on Assets (%)	4.11	4.25	4.10
	国有资产保值增值率 (%) Rate of Value Preservation and Increment of State-owned Assets (%)	/	105.4	107.9
	年度科技支出总额 (万元) Total S&T Expenditures of the Year (RMB 10,000)	621,606.50	610,820.10	477,658.10
	技术投入比率 (%) Technical Input Ratio (%)	2.75	2.58	2.14
	新增专利数 (项) New Patents (item)	1,289	1,349	1,456
社会绩效 Social Performance	纳税总额 (亿元) Total Tax Paid (RMB 100,000,000)	125.28	116.99	102.47
	从业人数 (人) Employees (person)	137,154	139,646	149,055
	在职职工 (人) In-service Employees (person)	129,929	135,929	140,150
	在岗职工 (人) On-the-job Employees (person)	129,929	120,042	126,545
	新增就业人数 (人) New Jobs Offered (person)	3,973	4,467	2,379
	劳动合同签订 (%) Rate of Signing Labor Contract (%)	100%	100%	100%

指标大类 Category	绩效指标 Performance indicators	2018	2017	2016
社会绩效 Social Performance	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 Female Leaders (%)	3%	4%	4%
	员工人均培训投入 (元) Training Inputs per Employee (RMB)	1,335	1,200	1,200
	员工流失率 (%) Turnover (%)	4.90%	4.78%	3.49%
	捐赠总额 (万元) Total Donations (RMB 10,000)	501.36	1,309.72	1,427.03
	安全培训人数 (人次) Participants in Safety Training (person/times)	404,000	391,000	384,000
	安全生产投入 (亿元) Inputs in Work Safety (RMB 100,000,000)	20.18	15.16	23.00
	环保培训人数 (人) / 覆盖率 (%) Participants in Environmental Training (person)/Coverage (%)	70,000/52%	60,000/42%	123,000/76%
环境绩效 Environmental Performance	环保总投资 (亿元) Total Environmental Investments (RMB 100,000,000)	4.03	8.32	16.00
	单位产值能耗 (吨标煤 / 万元) Energy Consumption per Unit of Output Value (tons of standard coals/RMB 10,000)	0.1052	/	/
	二氧化硫排放量 (吨) SO ₂ Emissions (ton)	8,249	9,012	9,071
	氮氧化物排放量 (吨) NO _x Emissions (ton)	17,679	17,867	17,985
	废水排放化学需氧量 (吨) COD in Waste Water (ton)	7,181	7,203	7,224
	废水排放氨氮量 (吨) NH ₃ -N Discharge in Waste Water (ton)	1,082	1,084	1,088

责任管理

CSR Management

责任理念

CSR Philosophy

中国能建肩负“世界能源、中国能建”的组织使命和“行业领先、世界一流”的战略愿景，遵循“自主创新、奉献社会，科学发展、共建和谐”的社会责任观，深入关注各利益相关方对集团的期望和要求，着力打造政府认可、投资者青睐、业主满意、职工幸福、绿色环保的和谐发展企业。

责任治理

CSR Governance

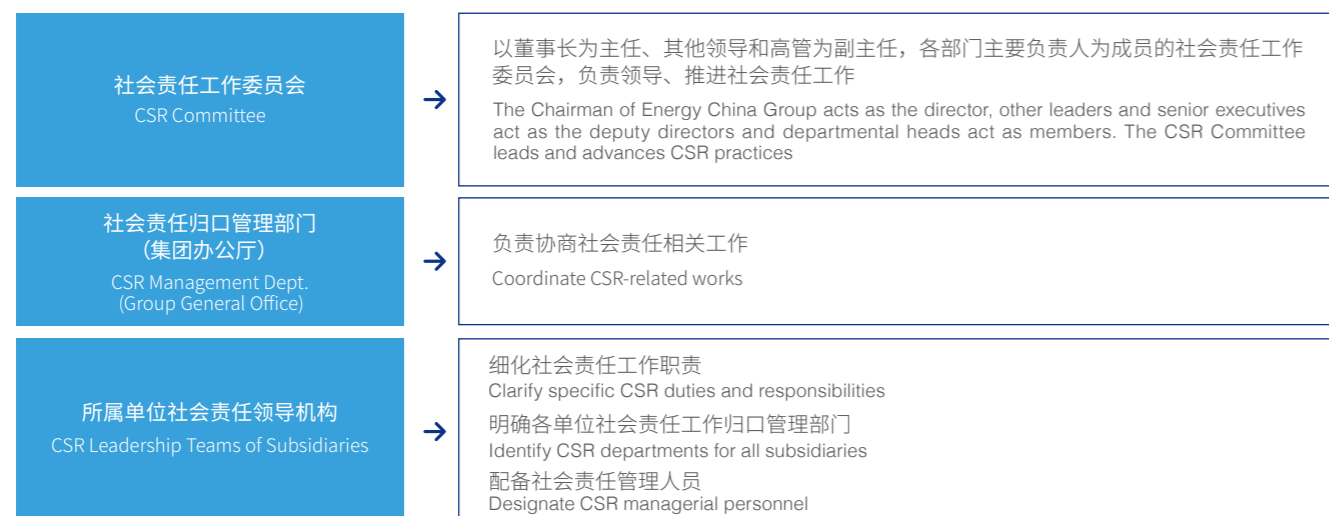
中国能建结合发展战略和运营模式，持续完善社会责任管理体制机制，努力推动社会责任管理融入企业理念、职能部门、生产运营过程，满足政府、股东、客户、伙伴、员工、社会等各利益相关方的期望与诉求。

By combining our development strategies with our business model, we have been constantly improving the CSR management system. We aim at integrating CSR management into our business philosophy, business departments and production and operation, to satisfy the expectations and demands from the government, shareholders, customers, partners, employees, and other stakeholders in the society.

Energy China Group works hard towards the strategic vision of becoming a "World-class Industrial Leader" and mission of "Bringing Energy to the World"; we pursue "independent innovation, social contribution, scientific development and mutual harmony" in social responsibility efforts; and pay close attention to the expectations and appeals from all stakeholders to build a harmonious enterprise with government recognitions, customer satisfactions, investors' high favors, employee happiness and green consciousness.

中国能建积极推进社会责任管理工作，建立分工明确、高效运转、三级联动的社会责任组织体系，并按照《社会责任管理暂行办法》严格落实社会责任的组织、计划、执行、沟通和绩效管理，建立了企业社会责任管理与实践的长效机制。

We've pressed ahead with CSR management and set up a CSR organizational system with clear responsibilities, high efficiency, and close interconnection between the CSR Committee, the CSR Management Department and the CSR leaderships of our subsidiaries. We have carried out management over CSR organization, planning, implementation, communication, and performance management in line with the Interim Measures for CSR Management, and have set up a permanent mechanism for CSR management and practices.

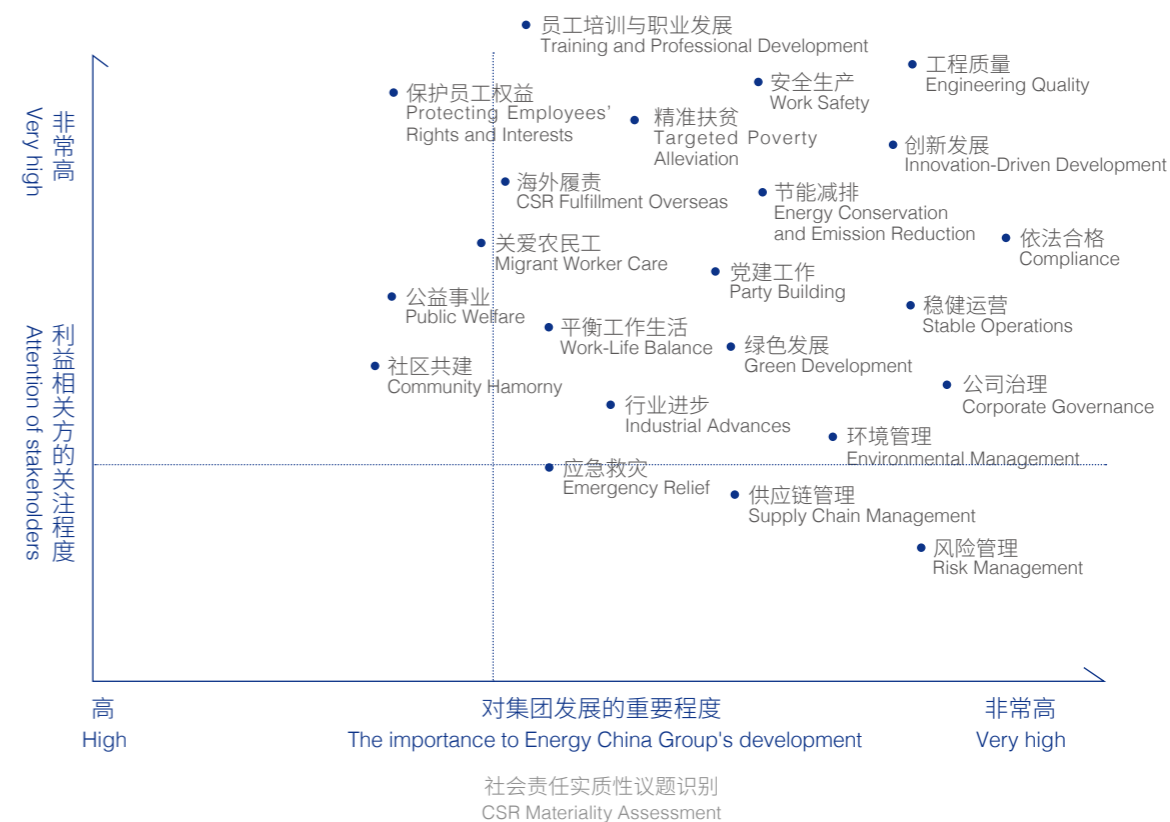
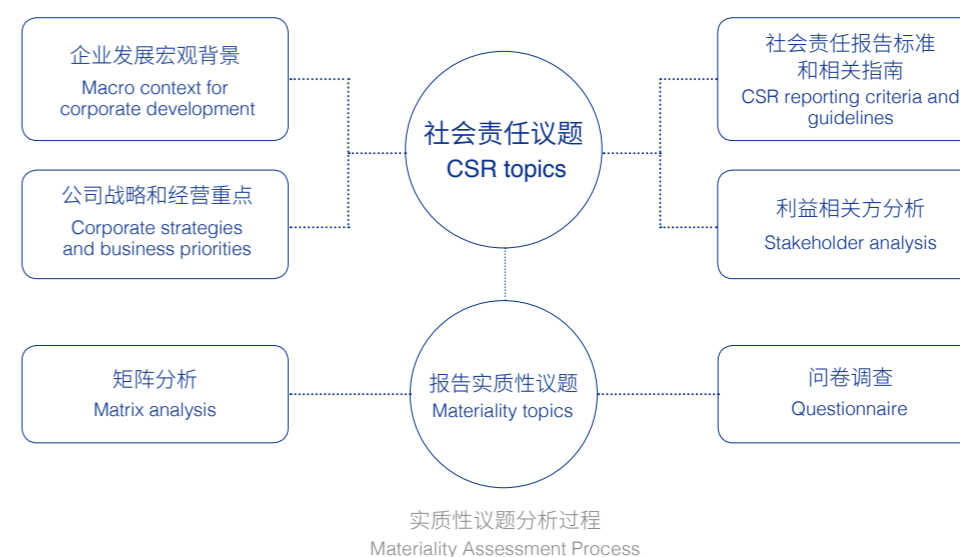


议题管理

Topic Management

我们基于外部利益相关方期望、集团自身战略及可持续发展能力的分析评估，依据国内外社会责任标准的相关要求，从“对企业可持续发展的重要性”和“对利益相关方的重要性”两个维度对议题进行排序，选择实质性议题在报告中进行披露。

We analyze external stakeholder expectations, corporate strategies and sustainability capability, prioritize issues by importance from the perspectives of corporate sustainability and stakeholders, and disclose material topics in the report.



责任荣誉

CSR Honors

荣誉 Award	评选机构 Issuer
中央企业负责人（2017 年）年度经营业绩考核 A 级 Class A, 2017 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 SASAC
2018 年度中国对外承包工程 AAA 级信用企业 2018 China International Contractor with AAA Credit Rating	中国对外承包工程商会 China International Contractors Association (CHINCA)
中国能建葛洲坝集团获得“2018 年度中国精准扶贫突出贡献单位” China Gezhouba Group Co., Ltd. won the title of "Top Contributor to China's Targeted Poverty Alleviation in 2018".	中国扶贫开发协会 China Association of Poverty Alleviation & Development
“重大工程结构安全服役的高韧性纤维混凝土制备与应用关键技术”获得 2018 年度国家技术发明奖二等奖 "Key Technologies for the Preparation and Application of Safe-Service High Ductility Fiber Reinforced Concrete Employed in Major Projects" won the second prize of 2018 National Technology Invention Award.	国务院 State Council
“超大型水电站用金属结构关键材料成套技术开发应用”“电力系统接地基础理论、关键技术及工程应用”等 2 项成果获得 2018 年度国家科技进步二等奖 "Development and Application of Technologies for Key Materials for Metallic Structures at Ultra-Large Hydropower Stations" and "Grounding of Electrical Systems: Basic Theories, Key Technologies, and Engineering Application" won the second prize of 2018 National Scientific and Technological Progress Award.	国务院 State Council
大型竖井混凝土施工成套技术研究及应用”等 2 项成果获得 2018 年度中国电力技术发明三等奖 2 researches such as the "Research and Application of Technologies for Concrete Construction in Large Vertical Shafts" won the third prize of 2018 China Electrical Technology Invention Award.	中国电机工程学会 Chinese Society for Electrical Engineering
“统一潮流控制器（UPFC）关键技术、成套装备及工程应用”等 16 项成果获得 2018 年度中国电力科学技术进步奖，其中，一等奖 3 项、二等奖 6 项、三等奖 7 项 16 researches such as "Key Technologies, Complete Equipment, and Engineering Application of UPFC" won 2018 China Electrical Scientific and Technological Progress Awards (3 first prizes, 6 second prizes, and 7 third prizes).	中国电机工程学会 Chinese Society for Electrical Engineering
“酒泉 - 湖南 ±800kV 特高压直流输电工程”等 32 项工程获得 2018 年度国家优质工程奖，其中金质奖 7 项 32 projects such as the "Jiuquan-Hunan ±800kV UHV DC Transmission Project" won 2018 National Quality Project Award, including 7 golden prizes.	中国施工企业管理协会 China Association of Construction Enterprise Management
国投湄洲湾第二发电厂 2×1000MW 机组工程”等 41 项工程获评 2018 年度中国电力优质工程 41 projects such as the "2×1,000 MW Units Project for the SDIC Meizhouwan No.2 Power Station" won "2018 China Quality Electrical Projects".	中国电力建设企业协会 China Electric Power Construction Association

荣誉 Award	评选机构 Issuer
雅砻江锦屏一级水电站工程获得中国土木工程詹天佑奖 The Yalongjiang Jinping-I Hydropower Project won Tien-yow Jeme Awards for Chinese Civil Engineering Projects.	中国土木工程学会 China Civil Engineering Society
雅砻江锦屏一级水电站工程获得菲迪克 2018 年工程项目杰出成就奖 The Yalongjiang Jinping-I Hydropower Project won 2018 FIDIC Outstanding Project of the Year.	国际咨询工程师联合会 FIDIC
河北张家口国家风光储输示范工程获得 2018 年度菲迪克优秀工程奖 The Zhangjiakou National Wind and Solar Energy Storage and Transmission Demonstration Project in Hebei won 2018 FIDIC Merit Project of the Year.	国际咨询工程师联合会 FIDIC
“钢管结构环板节点设计关键技术研究及应用”等 111 项成果获得 2018 年度电力建设科技进步奖，其中一等奖 2 项 111 researches such as the "Research and Application of Key Technologies for Joint Design for the Annular Plates of Steel Pipes" won the 2018 Electrical Construction Scientific and Technological Progress Awards, including 2 first prizes.	中国电力建设企业协会 China Electric Power Construction Association
朱滨等 13 名专家荣获第五批“电力勘测设计大师”称号 13 experts including Zhu Bin won the fifth group of "Masters of Power Survey & Design" titles.	中国电力规划设计协会 China Electric Power Planning & Engineering Association
1 人获得中国电力科学技术杰出贡献奖，2 人获得中国电力优秀科技工作者奖，3 人获得中国电力优秀青年科技工作者 One employee won the China Electrical Science and Technology Outstanding Contribution Award, two won the China Outstanding Electrical Professional Awards, and three won the China Outstanding Young Electrical Professional Awards.	中国电机工程学会 Chinese Society for Electrical Engineering
汪建平董事长被评为“2018 丝路国际产能合作领军人物” Chairman Wang Jianping was honored as the "2018 Silk Road International Production Capacity Cooperation Pioneer".	丝路国际产能合作促进中心、丝路国际人才联盟 The Silk Road Promotion Center for International Production Capacity Cooperation, The Belt & Road Talent Alliance
周军荣获 2018 年“全国五一劳动奖章” Zhou Jun won the "2018 National May 1st Labor Medal".	中华全国总工会 All-China Federation of Trade Unions
刘仔才荣获第 22 届“中国青年五四奖章” Liu Zicai won the 22nd "China Youth May 4th Medal".	中国共产主义青年团中央、中华全国青年联合会 Central Committee of the Communist Youth League of China, All-China Youth Federation

责任沟通

CSR Communication

中国能建主动识别利益相关方，与利益相关方建立常态沟通机制，通过多渠道、多形式的沟通，了解不同利益相关方核心期望与诉求，持续提高社会责任工作绩效，实现与利益相关方共同发展。

We've taken proactive efforts in identifying all stakeholders and building a routine communication mechanism with them to understand their expectations and appeals through multiple channels. We hope to achieve shared progress with them by continuously improving our CSR performance.

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 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 	<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 配合国资委调研 Assist the SASAC with investigation and research 承担企业社会责任 Assume corporate social responsibilities
股东与投资者委 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"> 阳光治理 Ensure transparent governance 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 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 参与定点扶贫 Take part in targeted poverty alleviation 稳增长、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 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
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

利益相关方 Stakeholders	期望与诉求 Appeals & Expectations	回应方式 Responses	责任实践 CSR Practices
员工 Employees	<ul style="list-style-type: none"> 薪酬与福利 Salaries & 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 开展困难员工帮扶 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 Welfare & philanthropy 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 Industries	<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

展望 2019

Outlook for 2019

2019 年是新中国成立 70 周年，是全面建成小康社会、实现第一个百年奋斗目标的关键之年。中国能建将坚持新发展理念，全力保持稳定增长、全面深化各项改革、全面强化规范管理、夯实安全质量根基、构建绿色发展模式、深化责任成果共享，努力实现更高质量、更有效率、更可持续的发展，最大限度创造经济、社会和环境综合价值。

全力保持稳定增长。推动国际业务优先发展，积极参与“一带一路”建设，着力培育国际竞争新优势。大力开拓国内市场，巩固传统业务市场优势，大力推动传统业务向纵深延伸。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。

全面深化各项改革。全面完成党中央、国务院和国务院国资委部署的各项改革，持续优化内部资源配置，不断完善体制机制，彻底破除束缚企业发展的各种障碍，激发广大干部职工创新创造创造的积极性和主动性，坚定不移将改革工作推向纵深，增强高质量发展动力。

全面强化规范管理。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。推进法治能力建设，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。

夯实安全质量根基。牢固树立安全发展理念，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。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”。

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。

深化责任成果共享。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，将员工价值追求融入集团发展愿景，实现员工与企业的共同成长。加大精准扶贫工作力度，聚集力量助力打赢脱贫攻坚战。

2019 年，我们将继续秉持“共赢致和、行稳致远”的企业精神，携手共进、不忘初心、不负时代，在建设美丽中国、服务人民群众美好生活中当好先锋、做好表率，为实现中华民族伟大复兴的“中国梦”作出新的贡献。

2019 marks the 70th Anniversary of the Founding of the People's Republic of China and an important year for building a moderately prosperous society in all respects and achieving the first centenary goal. Energy China Group will stick to new development vision, maintain steady growth, deepen all reforms, strengthen regulation and management, build stronger basis for safety and quality, develop green development models, and share both responsibilities and accomplishments. We strive for development of higher quality, better efficiency, greater sustainability, and maximized economic, social, and environmental value.

Maintaining stable growth. We will prioritize the development of international businesses, engage in the Belt and Road Initiative, and foster new advantages in international competition. Efforts will be made to expand the Chinese market, reinforce our competitive edge in traditional businesses, and develop those businesses in greater depth. We will speed up our transformation, optimize our business structure and layout, and build new engines and advantages for growth.

Deepening reforms in all aspects. We will complete the reforms assigned by the Central Party Committee, the State Council, and the SASAC. We will persist in optimizing internal resource allocation, improving institutions and mechanisms, breaking through all obstacles that hinder corporate development, motivating employees to create, innovate, and perform, and deepening reform efforts, to strengthen the driving force for quality development.

Enhancing standardized management. We will raise the awareness for standard operation and risk prevention so that standard operation will become a fixed mindset, a set management approach, and an established action pattern. We will improve law-based governance, strengthen compliance awareness, and foster a culture for compliance. We will perfect the multi-layered risk control system, to ensure all systems run smoothly and prevent risks from occurring at the same time.

Consolidating the basis for safety and quality. We will put safety first, specify work safety responsibilities at all levels, prevent safety risks, and pursue accountability for safety issues. We will push ahead with our quality management system, increase investment, build exemplary quality projects, and implement our strategy of driving growth with quality. We aim at becoming a well-recognized company famous for its high quality.

Developing green growth models. We will focus on the R&D of green technologies, processes, and engineering methods, so that environmental protection runs through all links of our business. We shall adapt to green, low-carbon, efficient, diverse and smart energy development, and deeply reform energy production and consumption. We will devote ourselves to becoming an active participant in improving and restoring ecosystems, and a provider of environmentally friendly services.

Share both responsibilities and accomplishments. We will bear in mind the general picture of Chinese economic and social development, meet customers' diverse demands with innovative products and services, and build win-win industrial chains to boost industrial development. We will build an inclusive and equal workplace, provide a nourishing environment for personal growth, and integrate employees' goals into our corporate vision, so that Energy China Group and employees can grow together. We will step up our efforts in targeted poverty alleviation, and focus our strength on winning the battle against poverty.

In 2019, we will remain committed to our corporate motto— “To achieve harmonious collaboration and solid development”. On our way forward, we will join hands, bear in mind our founding missions, and satisfy the demands of the times. We shall strive to become a role model in building a beautiful China and serving the lives of the people, and make new contributions to realizing the Chinese Dream of national rejuvenation.



报告指标索引

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读者意见反馈表

Feedback

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。请您协助完成以下问题，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。

姓名 _____ 职业 _____ 机构 _____ 联系地址 _____
 邮编 _____ 邮箱 _____ 电话 _____ 传真 _____

我们的联系方式是：

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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. It provides a comprehensive and accurate disclosure of our CSR performance
 Very good Good Fair Poor Very poor
2. It responds to stakeholder concerns
 Very good Good Fair Poor Very poor
3. It contains accurate and complete data/information
 Very good Good Fair Poor Very poor
4. Its 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 _____ Title _____ Company _____ Address _____
 Postcode _____ Email _____ Tel. _____ Fax _____

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