

BRINGING ENERGY
TO THE WORLD
世界能源 · 中国能建

ENERGY CHINA

 中国能源建设股份有限公司
CHINA ENERGY ENGINEERING CORPORATION LIMITED

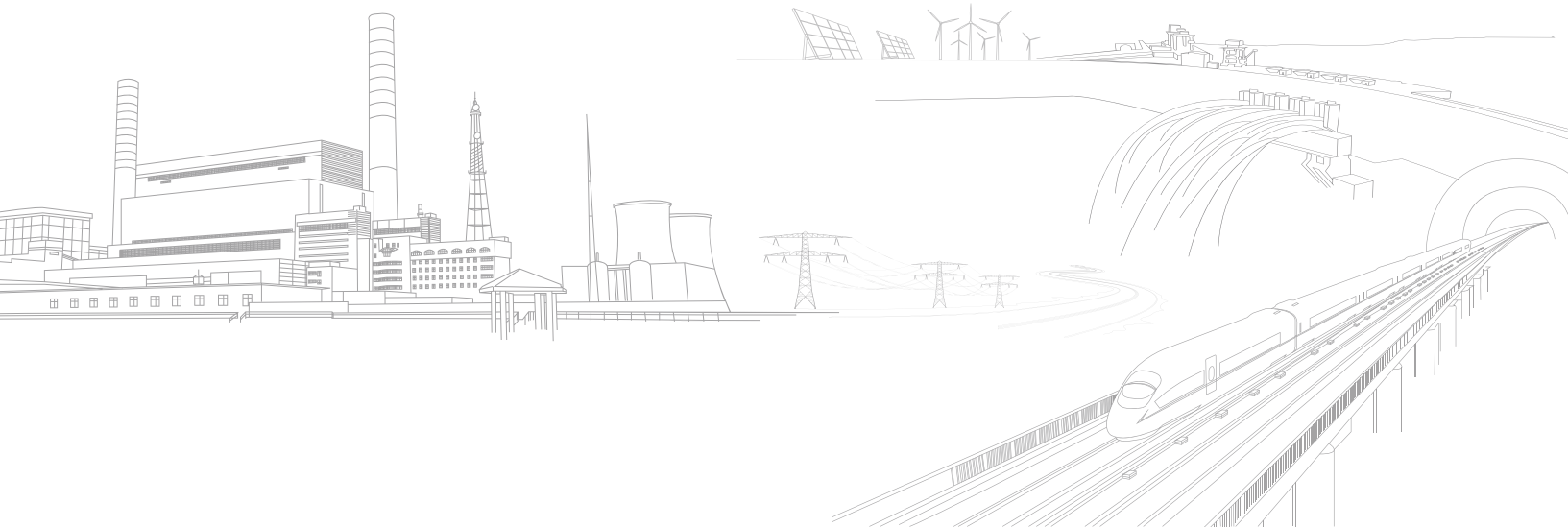
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ENTERPRISE PROFILE

企业简介

中国能源建设集团有限公司(简称“中国能建集团”)成立于2011年9月29日,是国务院国资委直接管理的特大型能源建设集团,是我国和世界能源建设的主力军。中国能建集团注册资本金260亿元。

2014年12月19日,中国能建集团与其全资子公司电力规划总院有限公司发起设立了中国能源建设股份有限公司(简称“中国能建”),中国能建集团持股99.53%。中国能建注册资本金216亿元。

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), with a registered capital of RMB 26 billion. Energy China Group is a large leading and internationally advanced energy engineering conglomerate with a well-know brand in the power industry in China and globally.

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), with a registered capital of RMB 21.6 billion. Energy China Group has been the controlling shareholder of Energy China, which directly held 99.53% of its shares.

组建渊源

Establishment & History

中国葛洲坝集团公司
China Gezhouba Group Corporation

中国电力工程顾问集团公司
China Power Engineering Consulting Group Corporation



国家电网公司、中国南方电网有限责任公司划转的
15个省(市、自治区)电力设计、施工、装备企业

Electric power engineering enterprises, construction enterprises and equipment manufacturing enterprises owned by State Grid Corporation of China and China Southern Power Grid Co., Ltd. in 15 provinces, municipalities and autonomous regions in PRC



世界500强企业
Fortune Global 500

中央企业负责人经营业绩考核A级企业
Grade-A Enterprise in the performance evaluation of executives in charge of enterprises under the central government supervision

香港H股主板上市企业
Listed Company on the Main Board of HKEX

MAIN BUSINESS

主营业务

中国能建是全球最大的电力工程企业之一，拥有集能源与电力工程勘测设计及咨询、工程建设、装备制造、民用爆破及水泥生产、投资运营及其它业务，能为客户提供一站式综合解决方案和全生命周期的管理服务，业务覆盖全球80个国家和地区。

Energy China is one of the largest comprehensive solutions providers for the power industry in China and globally. The comprehensive solutions include one-stop integrated solutions and full life-cycle project management services. Our business segments consist of (i) survey, design and consultancy, (ii) construction and contracting, (iii) equipment manufacturing, (iv) civil explosives and cement production, and (v) investment and other businesses. Energy China has provided services in over 80 countries and regions.

业务覆盖全球

80

个国家和地区

Energy China has provided services in over 80 countries and regions



能源电力规划研究、咨询评审、行业标准制定

Power Planning, Engineering Consultation and Industrial Standards Compilation

勇担国家能源电力规划研究重任，完成 **90%** 以上的电力规划研究、咨询评审和行业标准制定

Completed over 90% of the power planning and power policy research, engineering consultation and evaluation, and compilation of electric power engineering and industrial standards



水电工程

Hydropower

拥有国内近 **25%** 的水电施工市场份额
完成三峡工程 **65%** 以上的工作量

履行着中国企业在海外最大的 3 项水电工程合同

Construction: around 25% domestic market share
Undertaking more than 65% of construction work load of the Three Gorges Project

Now performing the contracts for 3 overseas hydropower projects, the largest of its kind ever undertaken by Chinese enterprises so far



火电工程

Fossil Fuel Power

拥有国内火电超过 **80%** 的勘测设计及咨询业务市场和近 **60%** 的建设市场

Design: over 80% domestic market share
Construction: around 60% market share



新能源工程

New Energy

新能源领域设计、施工、装备以及工程总承包等业务占国内市场份额近 **50%**

Design, construction, equipment, and EPC contracting: around 50% domestic market share



特高压输变电工程

Power Transmission and Transformation

获得国内超过 **50%** 的 330 千伏及以上的输变电线路设计市场，超过 **70%** 的特高压输变电线路设计市场

Design of power grids: over 50% share in the 330kV and above transmission lines market
Design of UHV transmission lines: over 70% share



核电工程

Nuclear Power

拥有国内 **90%** 以上的核电常规岛设计市场
近 **60%** 的核电常规岛安装市场
近 **30%** 的常规岛土建市场

Design of the nuclear power plant conventional island: over 90% domestic market share. Installation of the nuclear power plant conventional island: around 60% share. The nuclear power plant conventional island civil works: around 30% share



民爆

Civil Explosives

民爆产能规模 **全国第 4**，安全环保型乳化炸药生产技术达到国际先进水平

Ranked the 4th in China in the production volume of civil explosives
Internationally advanced production technology of safe and environmentally friendly emulsion explosives



水泥

Cement Production

水泥年产能逾 **2500** 万吨，拥有 19 家企业和全国最大的特种水泥生产基地

19 subsidiaries with an annual production capacity of over 25 million tones
The largest production base of specialty cement cement in China



房地产

Real Estate

国务院国资委首批

核准的 **16** 家以房地产为主业的央企之一

One of the first 16 central SOEs approved by SASAC to have real estate development as its main business

PART.02

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POWER PLANNING AND ENGINEERING CONSULTATION

规划咨询

90%

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

Completed over 90% of electric power planning and power policy research in China, engineering consultation and evaluation, and compilation of electric power engineering and industrial standards

电力规划总院有限公司（简称“电规总院”）是中国能建集团的下属企业，与中国能建集团共同出资组建中国能建（持有 0.47% 的股份）。电规总院是中国最具竞争力的电力规划咨询企业，承担国家能源电力规划研究工作，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。

Electric Power Planning & Engineering Institute Co., Ltd. (EPPE Company) is a wholly-owned subsidiary of Energy China Group. As one of the promoters of Energy China, EPPE company holds 0.47% percent of shares of Energy China.

As the most competitive enterprise in PRC power planning and engineering sector, EPPE Company is responsible for PRC energy and power planning and research. It has completed more than 90% of electric power planning and power policy research in China, engineering consultation and evaluation, and compilation of electric power engineering and industrial standards.

国家电力规划研究中心// NATIONAL ELECTRIC POWER PLANNING & RESEARCH CENTER



2012年1月12日，国家电力规划研究中心正式启动。

国家电力规划研究中心由国家能源局批准成立，依托电规总院的专业技术力量组建，面向政府部门开展电力行业发展战略、政策和规划研究，电力新技术研究及推广，电力信息收集及分析，电力国际交流与合作等工作，是电力工业规划研究的“国家队”。

On 12 January 2012, the National Electric Power Planning & Research Center was officially founded.

Relying on the technical strength of EPPE Company, the National Electric Power Planning & Research Center was established with the approval of National Energy Administration (NEA). As the "national team" for PRC power planning and research sector, it provides government departments with such services as studies on development strategy, policy and planning for PRC electric power industry; new technology R & D and promotion; collection and analysis of electric power information; and international technical exchange & cooperation.

组织架构//

ORGANIZATIONAL STRUCTURE



POWER PLANNING AND ENGINEERING CONSULTATION

规划咨询

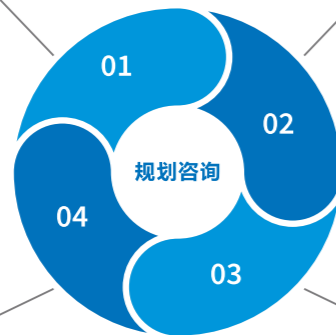
行业发展战略
Development strategy

产业政策
Industrial policy

发展规划
Planning of electric power industry

政策研究
Study on Policy

规划研究
Study on Planning



电力工程项目评估
Engineering evaluation

电力工程项目咨询评审
Engineering consultation and evaluation

规划项目咨询评审
Consultation and evaluation on power planning

咨询评审
Electric Power Engineering Consultation and Evaluation

行业标准化
Standardization of PRC Electric Power Industry

电力工业中长期发展规划研究
Medium - and long - term development planning for PRC power industry

西电东送、全国联网规划研究
Planning for the national grid interconnection and power delivery from West to East China

区域电源、电网发展规划研究
Planning for the development of regional power generation and power grids

水、火电源输电方案和接入系统规划研究
Electric power transmission planning for large fossil fuel/hydropower plants and planning for access system

电力企业发展规划研究
Planning for the development of electric power companies

境外电力规划研究
Planning for overseas electric power projects

能源行业电力系统规划设计标准化技术委员会
Standardization Committee of Power System Planning and Design

能源行业发电设计标准化技术委员会
Standardization Committee of Power Generation Design

能源行业电网设计标准化技术委员会
Standardization Committee of Power Grid Design

能源行业火电和电网工程技术经济专业标准化技术委员会
Standardization Committee of Technical Economy for Fossil Fuel Power Generation & Power Grid



全国主要电力流示意图
Major power delivery in China



中国大陆核电基地分布示意图
Distribution of Nuclear Power Plants in mainland China

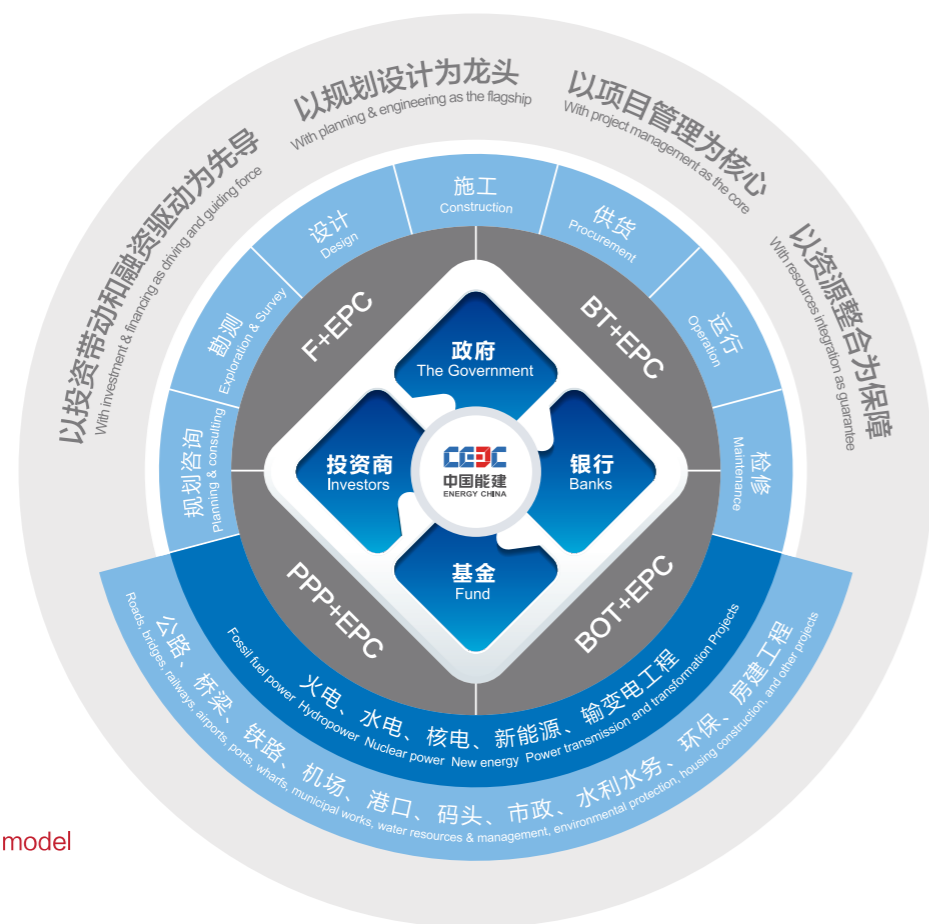
全国火电装机容量图 (单位: MW 截至 2014 年底)
Nationwide distribution of installed capacity of fossil fuel power (unit: MW; by the end of 2014)

ENGINEERING, PROCUREMENT AND CONSTRUCTION (EPC)

工程总承包

以投资带动和融资驱动为先导、以规划设计为龙头、以项目管理为核心、以资源整合为保障，通过 F+EPC、BT+EPC、BOT+EPC、PPP+EPC 等商业模式开展工程总承包，蹚出了电力建设 EPC 的“中国道路”，并发挥着“领军者”作用；在海外承建了数千项水电、水利水务、交通、市政等 EPC 工程，并打造出世界知名品牌。

With investment and financing as driving force, planning and design as the flagship, project management as the core, resources integration as guarantee, Energy China carries out general contracting by means of F+EPC, BT+EPC, BOT+EPC, PPP+EPC and other commercial models. It has blazed a "China trail" and plays a leading role in the power construction EPC field. The company has contracted thousands of overseas EPC projects in such areas as hydropower, transportation, municipal works, etc., through which a world famous brand has been created.



基本商业模式
Basic business model



国家主席习近平与阿根廷总统克里斯蒂娜出席工程融资协议签字仪式
Chinese President Xi Jinping and Argentine President Cristina attended the project financing agreement signing ceremony



阿根廷圣克鲁斯河基赛水电站
阿根廷历史上最大的工程项目，中国企业在海外承建的最大规模水电工程，总装机容量 1740MW，合同总金额约 340 亿元，以 F+EPC 方式建设

President Dr Nestor Carlos Kirchner and Governor Jorge Cepernic Hydroelectric Project, on the Santa Cruz River, Argentina
It is the largest engineering project so far in Argentina, as well as the largest overseas hydroelectric project undertaken by a PRC enterprise, with a total installed capacity of 1740MW and a total contract value of RMB 34 billion, constructed in the model of F+EPC



1.安徽铜陵发电厂六期2×1000MW机组扩建工程
国内首个百万千瓦燃煤机组 EPC 工程项目

1. Tongling Power Plant Expansion Project, Phase VI, Anhui (2×1000MW)
China's first 1000MW coal-fired unit EPC project



2.广东南澳±160kV多端柔性直流输电示范工程

世界首个多端柔性直流输电工程，国家 863 课题“大型风电场柔性直流输电接入技术与研究开发”示范工程，以 EPC 方式建设

3.重庆三环高速公路江津至綦江段

全长 47.8km，双向 4 车道，设计车速 80km/h，以 BOT+EPC 方式建设

2. Guangdong Nan'ao ±160kV Multi-infeed VSC-HVDC Transmission Demonstration Project

Guangdong Nan'ao ±160kV Multi-infeed VSC-HVDC Transmission Demonstration Project. The world's first multi-infeed VSC-HVDC transmission project, as well as a National 863 Plan demonstration project for "the research and development of VSC-HVDC technology for connecting large wind farms to the grid", EPC model

3. Jiangjin-Qijiang Section of the Chongqing Third-Ring Expressway

47.8km long, two-way four-lane, design speed 80km/h, BOT+ETC



FOSSIL FUEL POWER PROJECTS

火电工程

拥有世界一流的火电设计、建设实力，可以承揽全部容量等级火电工程的咨询、勘测、设计、施工等业务。拥有国内火电超过 80% 的勘测设计及咨询业务市场和近 60% 的建设市场。十余年来，共勘测设计火电厂 1100 余座，施工火电厂 800 余座。

With world-class fossil fuel power engineering and construction strength, Energy China is capable of providing consulting, engineering, construction and other services for fossil fuel power projects of all installed capacity. It possessed a domestic market share of over 80% in the fossil fuel power design and accomplished the construction of around 60% of fossil fuel power plants in China, i.e. there were respectively more than 1100 and 800 fossil fuel plants designed and constructed by Energy China over the past decade.

1100

十余年来，共勘测设计火电厂1100余座

Design of more than 1100 fossil fuel power plants over the past decade

800

十余年来，共施工火电厂800余座

Construction of more than 800 fossil fuel power plants over the past decade

80%

拥有国内火电超过80%的勘测设计及咨询业务市场

Possessing a domestic market share of over 80% in the fossil fuel power design

60%

拥有国内火电近60%的建设市场

Accomplishing the construction of around 60% of fossil fuel power plants in China

浙江玉环电厂4×1000MW机组工程

国内首台百万千瓦超超临界机组，获国家科技进步一等奖、全国优秀工程设计金奖、国家优质工程金奖、新中国成立六十周年百项经典暨精品工程等荣誉

Yuhuan Power Plant, Zhejiang (4×1000MW)

China's first 1000MW ultra-supercritical unit; won National Science and Technology Progress Award (First Prize), National Excellent Project Engineering Gold Award, National Quality Engineering Gold Award, 100 Classic Engineering Feats in the 60th Anniversary of Founding of New China





1.浙江宁海电厂二期2×1000MW机组工程
获鲁班奖、改革开放三十五年百项经典暨精品工程奖

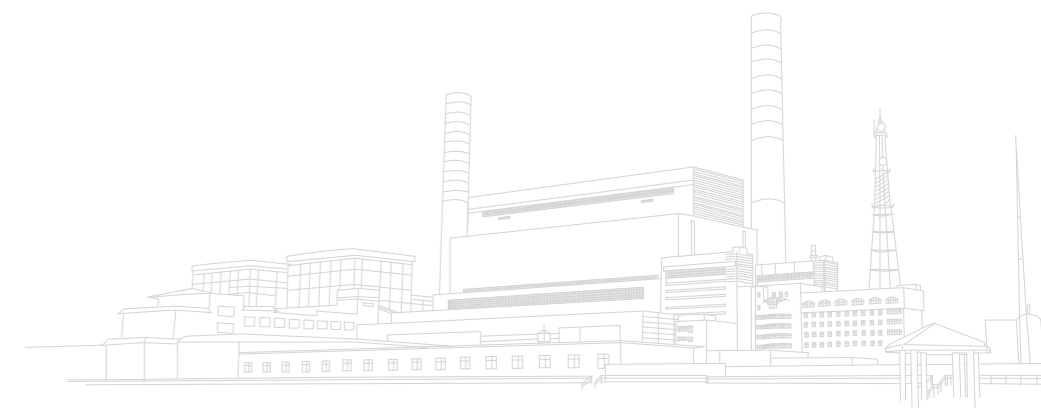
2.广东海门电厂一期2×1000MW机组工程
获国家优质工程金奖，创5项世界首创发电机组新技术

3.广东台山电厂5×600MW+2×1000MW机组工程
获全国优秀工程设计金奖、鲁班奖

1.Ninghai Power Plant, Phase II, Zhejiang (2×1000MW)
Won China Construction Project Luban Award and the honor of 100 Classic Engineering Feats in the 35 years of Reform and Opening up

2.Haimen Power Plant, Phase I, Guangdong (2×1000MW)
Won Gold Medal for National High Quality Project, and created five newest power generating technologies in the world

3.Taishan Power Plant, Guangdong (5×600MW + 2×1000MW)
won National Excellent Project Engineering Gold Award and China Construction Project Luban Award



1.北京东北热电中心燃气热电2X950.98MW工程
北京四大热电中心之一

2.天津北疆电厂4×1000MW机组工程
中国北方第一个投产运行的百万千瓦超超临界机组，世界首创“发电—海水淡化—浓海水制盐—土地节约整理—废物资源化再利用”模式

3.内蒙古托克托电厂8×600MW+2×300MW机组工程
中国大陆总装机容量最大的火力发电基地

4.辽宁绥中电厂二期2×1000MW机组工程
获国家优质工程金奖

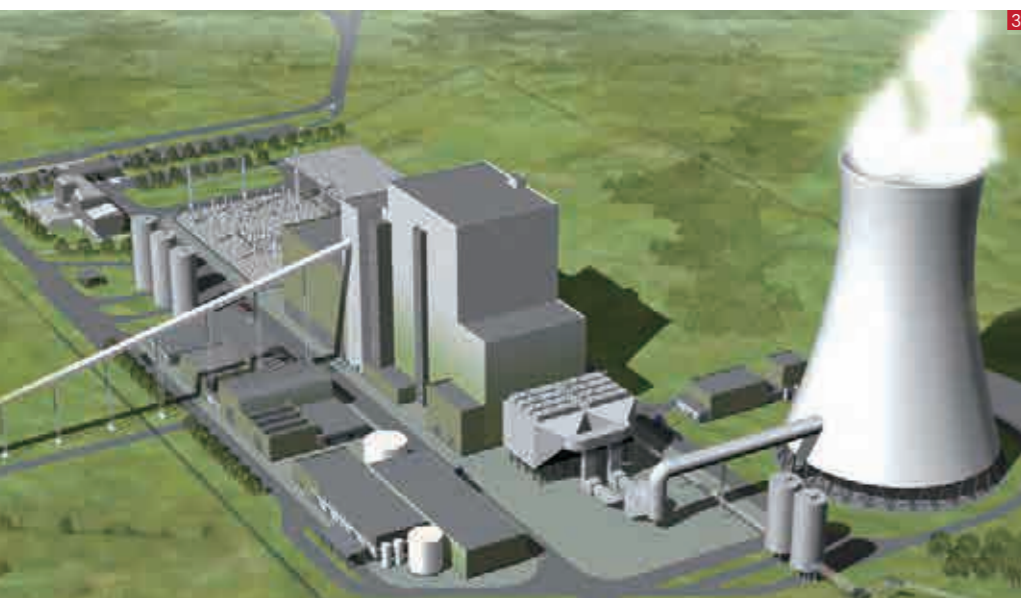
1.Beijing Northeast Thermal Power Center(2×950.98MW gas-steam units)
One of the four large thermal power plants in Beijing

2.Beijiang Power Plant, Tianjin (4×1000MW)
The first 1000MW ultra-supercritical unit put into operation in Northern China, and the world's first adoption of the model of "power generation-desalination-salt production from concentrated seawater-land saving and consolidation-recycling"

3.Togtoh Power Plant, Inner Mongolia (8×600MW + 2×300MW)
China's largest fossil fuel power generation base in terms of total installed capacity

4.Suizhong Power Plant, Phase II, Liaoning (2×1000MW)
Gold Medal for National High Quality Project





1.越南沿海 $2 \times 622\text{MW} + 2 \times 600\text{MW} + 3 \times 600\text{MW}$ 火力发电厂
越南南部最大的电力工程

2.印度莎圣 $6 \times 660\text{MW}$ 燃煤电站
印度在建的最大燃煤电站

3.波黑图兹拉水电站 450MW 机组工程
EPC 工程

4.土耳其EREN $2 \times 600\text{MW}$ 超临界燃煤电站
中国首次对外出口的单机容量 600MW 的超临界火电机组，获鲁班奖（境外）

1. Duyen Hai Thermal Power Plant, Vietnam ($2 \times 622\text{MW} + 2 \times 600\text{MW} + 3 \times 600\text{MW}$)
The largest power project in South Vietnam

2. Sasan Coal-fired Power Plant, India ($6 \times 660\text{MW}$)
The largest coal-fired power plant under construction in India

3. Tuzla Thermal Power Plant, Bosnia and Herzegovina (450MW)
EPC project

4. EREN Supercritical Coal-fired Power Plant, Turkey ($2 \times 600\text{MW}$)
The first supercritical coal-fired power plant with a single unit capacity of 600MW built overseas; won China Construction Project Luban Award (Overseas Project)

HYDROPOWER PROJECTS

水电工程

1000

设计、建设了1000余项各类水电工程

Design and construction of more than 1000 hydropower projects of various types

25%

拥有近25%的国内水电施工市场份额

Having a market share of around 25% for the construction of hydropower projects in China

20

参与20余座海外水电工程建设

Undertaking the construction of more than 20 overseas hydropower projects

65%

完成三峡工程65%以上的工作量

Undertaking more than 65% of construction work load of the Three Gorges Project

拥有世界一流的水电建设技术和较强的水电设计能力，设计、建设了1000 余项各类水电工程。拥有近 25% 的国内水电施工市场份额，在长江、雅砻江等流域大型水电站建设中担当主力。参与 20 余座海外水电工程建设，拥有多项大额海外水电工程合同，在一系列世界顶尖级水电工程中彰显了实力。

所属企业葛洲坝集团于 1984 年 2 月最早进入三峡工程工地，独家承建前期施工准备工程，全程参与了各期工程建设，承建了绝大部分控制性、关键性分项工程，完成三峡工程 65% 以上的工作量，是三峡工程建设当之无愧的主力军。

With world-class hydropower plant construction technologies and strong engineering capabilities, Energy China has designed and constructed more than 1000 hydropower projects of various types. It occupies about 25% of the domestic hydropower construction market, playing a major role in the construction of large-scale hydropower stations on the Yangtze, Yalong and other rivers. It has been engaged in the construction of more than 20 overseas hydropower projects, some of which are of enormous contract value, manifesting its strength by the successful delivery of a series of the most advanced hydropower projects in the world.

Its affiliated company China Gezhouba Group Corporation (CGGC) started working at the Three Gorges Project site in February 1984, the earliest of all the companies involved in the project, to make construction preparations exclusively. It was involved in all phases of construction, undertook most of the critical or controlling parts of the project, and completed more than 65% of the construction work load, playing an indisputable leading role in building the Three Gorges Project.



长江三峡水利枢纽工程

世界最大的水利枢纽工程，最大坝高 181m，总装机容量 22500MW

Three Gorges Hydroelectric Project Complex

The largest hydropower complex in the world, with maximum dam height of 181 meters and a total installed capacity of 22500MW

- | | |
|-------------------|--|
| 1. 大江截流 | 1. River closure |
| 2. 大坝浇筑 | 2. Concrete dam pouring |
| 3. 700MW 大型水电机组安装 | 3. Installation of large-scale 700MW hydropower unit |
| 4. 双线五级船闸 | 4. Double-channel and five-step ship lock |
| 5. 建设中的升船机工程 | 5. Ship lift project under construction |

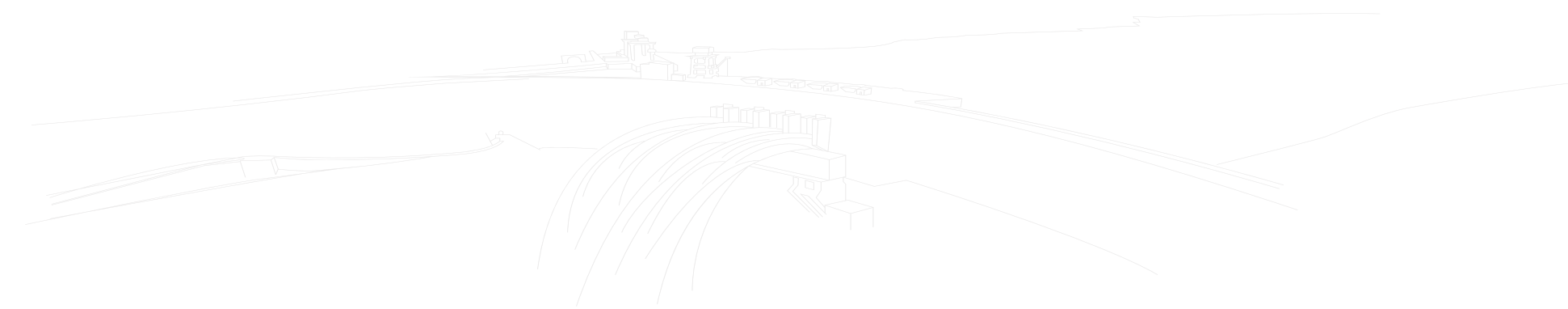


长江葛洲坝水利枢纽工程

万里长江第一座水利枢纽工程，三峡工程的试验性工程，总装机容量 2715MW，获国家科技进步特等奖、国家优质工程金奖

Gezhouba Hydroelectric Project Complex

The first water control project on the Yangtze River and pilot project of the Three Gorges Project; a total installed capacity of 2715MW; won National Science and Technology Progress Award (Top-grade Prize) and Gold Medal for National High Quality Project



金沙江向家坝水电站

世界单机容量最大的水轮发电机组 (800MW)，最大坝高 162m，总装机容量 6400MW

Xiangjiaba Hydropower Station, on the Jinsha River

The HPP with largest installed capacity of single unit (800MW) in the world; with maximum dam height of 162 meters and a total installed capacity of 6400MW



金沙江溪洛渡水电站

中国第二、世界第三大水电站，最大坝高 278m，总装机容量 13860MW

Xiluodu Hydropower Station, on the Jinsha River

China's second and the world's third largest hydropower station; with maximum dam height of 278 meters and a total installed capacity of 13860MW



1. Jinping I Hydropower Station, on the Yalong River

The world's highest double-curve arch dam, with maximum dam height of 305 meters and a total installed capacity of 3600MW

2. Zangmu Hydropower Station, on the Brahmaputra River

Tibet's largest hydropower project, as well as the first hydropower station on the Brahmaputra River; with maximum dam height of 116 meters and a total installed capacity of 510MW

3. Shuibuya Hydropower Station, on the Qingjiang River

The world's highest rock filled dam with concrete face; with maximum dam height of 223 meters and a total installed capacity of 1840MW

4. Heimifeng Pumped-storage Hydropower Station, Hunan

A total installed capacity of 1200MW; won China Construction Project Luban Award

1. 雅砻江锦屏一级工程

世界最高的双曲拱坝，最大坝高 305m，总装机容量 3600MW

2. 雅鲁藏布江藏木水电站

西藏最大的水电开发项目、雅鲁藏布江干流第一座水电站，最大坝高 116m，总装机容量 510MW

3. 清江水布垭水电站

世界最高的混凝土面板堆石坝，最大坝高 223m，总装机容量 1840MW

4. 湖南黑麋峰抽水蓄能电站

总装机容量 1200MW，获鲁班奖





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1. 红水河岩滩水电站

总装机容量 1810MW，自主勘察、设计、施工、安装，获全国优秀工程设计金奖、鲁班奖

2. 广西贵港航运枢纽

自主勘察、设计的华南地区最大内河港口，总装机容量 120MW，获鲁班奖

1. Yantan Hydropower Station, on the Hongshui River

A total installed capacity of 1810MW; independent engineering, construction and installation; won National Excellent Project Engineering Gold Award and China Construction Project Luban Award

2. Guigang Shipping Hub, Guangxi

The largest inland river port in South China with independent engineering; a total installed capacity of 120MW; won China Construction Project Luban Award

3. 埃塞俄比亚FAN水电站

中国企业在东非的首个 EPC 项目，总装机容量 97MW，中国进出口银行提供贷款

4. 缅甸耶涯水电站

缅甸的“三峡工程”，总装机容量 790MW，中国进出口银行提供买方信贷

5. 巴基斯坦尼鲁姆·杰鲁姆水电站

巴基斯坦的“三峡工程”，总装机容量 969MW，合同金额 15.06 亿美元，中国进出口银行提供买方信贷

3. FAN Hydropower Station, Ethiopia

First EPC project ever undertaken by a PRC enterprise in East Africa; a total installed capacity of 97MW; loan provided by the Export-Import Bank of China

4. Yeywa Hydroelectric Project, Myanmar

Myanmar's "Three Gorges Project", with a total installed capacity of 790MW, preferential export buyer's credit from the Export-Import Bank of China

5. Neelum-Jhelum Hydropower Station, Pakistan

Pakistan's "Three Gorges Project"; a total installed capacity of 969 MW; a total contract value of USD 1,506 billion; export buyer's credit from the Export-Import Bank of China



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NUCLEAR POWER PROJECTS

核电工程

拥有国内先进的核电常规岛设计技术、世界领先的核电建设技术，参与 40 余个核电工程常规岛或核岛的勘测、设计、施工，拥有国内 90% 以上的核电常规岛勘测设计市场、近 60% 的核电常规岛安装市场以及近 30% 的常规岛土建市场，掌握 CPR1000、EPR1750、AP1000、CAP1400、第四代试验快堆等技术。

With domestic leading technologies for conventional island design of nuclear power plants, as well as internationally advanced technique for nuclear power construction, Energy China participated in the engineering and construction for conventional islands or nuclear islands of over 40 nuclear power projects. Among all nuclear power generation units in China, it had an over 90% market share in survey and design, an approximately 60% market share in installation, and an around 30% market share in civil works, of conventional islands of nuclear plants, respectively. It has the related engineering and construction technologies for CPR1000, EPR1750, AP1000, CAP1400, Generation IV experimental fast reactor and so on.

40

40余个核电工程常规岛或核岛的勘测、设计、施工

Participation in the engineering and construction for conventional islands or nuclear islands of over 40 nuclear power projects

90%

拥有国内90%以上的核电常规岛勘测设计市场

Having an over 90% market share in survey and design of conventional islands of nuclear plants

60%

拥有国内近60%的核电常规岛安装市场

Having an approximately 60% market share in installation of conventional islands of nuclear plants



1.江苏田湾核电站一期2×1060MWe机组工程

中国首座引进技术的百万千瓦核电站

2.广东岭澳核电站二期2×1000MWe机组工程

中国首座采用拥有自主知识产权的改进型压水堆核电技术 CPR1000 示范工程

1.Tianwan Nuclear Power Plant, Phase I, Jiangsu (2×1060MWe)

China's first 1000MW nuclear power plant using introduced technology

2.Ling'ao Nuclear Power Plant, Phase II, Guangdong (2×1000 MWe)

The first CPR1000 demonstration project in China, adopting improved pressurized water reactor with China's independent intellectual property rights



浙江三门核电站一期2×1000MWe机组工程

世界首座 AP1000 核电站

Sanmen Nuclear Power Plant, Phase I, Zhejiang (2×1000MWe)

The world's first AP1000 nuclear power plant



1.浙江秦山核电站一期1×300MWe机组工程及扩建工程
方家山核电站2×1080MWe机组工程
中国大陆首座核电机组，目前核电机组数量最多、堆型最丰富、装机最大的核电基地

2.巴基斯坦恰希玛核电1×300MWe项目一期
中国自行设计建造的第一座出口商用核电站

3.建设中的山东荣成石岛湾核电站2×1400MWe机组工程
中国自主三代核电品牌 CAP1400 示范工程 CAP1400

4.广东台山核电站一期2×1750MWe 机组工程
世界单机容量最大的核电机组工程，采用 EPR 三代核电技术

5.广东阳江核电站6×1000MWe机组工程
中国一次核准机组数量最多的核电项目，采用自主品牌核电技术 CPR1000、ACPR1000 建设



1. Qinshan Nuclear Power Plant (NPP), Phase I (1×300MWe), and its Expansion Project (Fangjiashan) (2×1080MWe)

The first nuclear power plant in mainland China, currently the largest nuclear power base in terms of the number of nuclear power units, types of reactor and installed capacity

2. Chashma Nuclear Power Plant, Phase I, Pakistan (1×300MWe)

The first nuclear power plant exported from China

3. Shidaowan Nuclear Power Plant, Rongcheng, Shandong (2×1400MWe, under construction)

CAP1400 Demonstration project, using Generation III nuclear technology independently developed by China

4. Taishan Nuclear Power Plant, Phase I, Guangdong (2×1750MWe)

The world's largest NPP in single unit capacity, adopting Generation III EPR

5. Yangjiang Nuclear Power Plant, Guangdong (6×1000MWe)

The nuclear power project with the largest number of planned units approved at one time, applying CPR1000 and ACPR1000 nuclear power technology with China's independent intellectual property rights

NEW ENERGY PROJECTS

新能源工程

在风力发电、光伏发电、太阳能热发电、生物质发电、垃圾发电、地热发电、分布式能源等领域拥有世界领先的设计、建设能力，业务份额占国内市场近 50%。

As a world leading provider of engineering and construction services in the field of wind power, solar power, biomass, waste-to-energy, geothermal, distributed energy and so on, Energy China possesses about 50% of the domestic market share.

50%

新能源工程业务份额占国内市场近50%

Possessing about 50% of the domestic market share in new energy



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1.河北张北县国家风光储输示范电站

世界规模最大的多类型化学储能电站，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

2.江苏如东海上潮间带示范风电场

中国首座海上潮间带风电示范项目

3.广东南澳风电场

亚洲最大海岛风电场

1.Zhangbei National Wind-Solar Hybrid Power Supply and Transmission Demonstration Project, Hebei

The world's largest project for comprehensive utilization of new energies that integrates wind and solar hybrid system, energy storage system and smart power transmission

2.Rudong Offshore Tidal Zone Pilot Wind Farm, Jiangsu

China's first offshore tidal zone wind power pilot project

3.Nan'ao Wind Farm, Guangdong

Asia's largest wind farm on an island





1.北京八达岭聚光型太阳能发电项目
亚洲首座兆瓦级太阳能塔式热发电项目，国家“863”重点项目

2.广东湛江生物质发电厂
世界单机容量和总装机容量最大的生物质发电厂

3.天津双港垃圾焚烧发电厂
国内规模最大、自动化水平最高的垃圾焚烧电厂

4.广州大学城分布式能源站
中国最大的分布式能源站

1. Badaling Concentrating Solar Power (CSP) Project, Beijing
Asia's first megawatt scale tower-type CSP project, a key project of the "863" Program

2. Zhanjiang Biomass Power Plant, Guangdong
The world's largest biomass power plant in both single unit capacity and total installed capacity

3. Shuanggan Waste-to-energy Plant, Tianjin
China's largest waste-to-energy plant featuring the highest level of automation in China

4. Guangzhou University City Distributed Energy Station
China's largest distributed energy station

POWER TRANSMISSION AND TRANSFORMATION PROJECTS

输变电工程



70%

拥有国内超过70%的特高压输电线路设计市场

Having a market share of over 70% in the UHV transmission lines design market

拥有世界一流的输变电工程设计、建设技术，获得国内超过 50% 以上的 330 千伏及以上输电线路设计市场，超过 70% 的特高压输电线路设计市场。在国内输变电工程领域率先实施 EPC 建设模式，完成输变电工程总承包项目 100 余项。

As a world-class engineering and construction service provider for power transmission and transformation projects, Energy China had market shares of over 50% in power transmission lines design market (330 kV and above) and over 70% in UHV transmission lines design market. As a leading EPC contractor in domestic power transmission and transformation sector, it has completed more than 100 EPC projects of this kind.

1. 青藏交直流联网工程

世界海拔最高、施工冻土区最长、高寒地区建设规模最大、施工难题最多的交直流输变电工程

1. Qinghai-Tibet AC/DC Grid Interconnection Project

The most challenging transmission and transformation project so far in the world, with the highest elevation and the largest construction in alpine region. The lack of oxygen, geological complexity and large-scale frozen soil made the project extremely difficult technically.

2. 晋东南-南阳-荆门1000kV特高压交流试验示范工程

世界首个投入运行的 1000kV 电压等级输电工程，获国家科技进步特等奖、国家优质工程金奖、新中国成立六十周年百项经典暨精品工程奖等荣誉

2. Southeast Shanxi - Nanyang - Jingmen 1000kV UHV AC Project

The world's first 1000kV transmission project put into operation; won National Science and Technology Progress Award (Top-grade Prize), Gold Medal for National High Quality Project, 100 Classic Engineering Feats in the 60th Anniversary of Founding of New China

3. 海拉瓦 (Helava) 技术

全国约 95% 的 330kV 电压等级及以上输电线路工程用该技术进行路径优化，累计优化超过 15 万 km，累计缩短路径约 4140km，节省投资 60 亿元以上

3. Helava technology

This technology has been used to optimize about 95% of the transmission projects at or above 330kV level across the country, the total length of which is about 150,000km. It has helped shorten about 4140km transmission lines and has saved over RMB 6 billion.





1



2 3



1.云南楚雄-广东穗东±800kV特高压直流输电工程
世界首个 ±800kV 特高压直流输电工程

2.中新天津生态城智能电网综合示范工程
中国首个智能电网综合示范工程，世界功能最齐全的智能电网综合工程

3.浙江舟山±200kV五端柔性直流输电科技示范工程
世界电压等级最高、端数最多、单端容量最大的多端柔性直流输电工程

1.Chuxiong, Yunnan - Suidong, Guangdong ±800kV UHV DC Transmission Project
The world's first ±800kV UHV DC transmission project

2.Sino-Singapore Eco-City Smart Grid Demonstration Project, Tianjin
China's first smart grid demonstration project with the most comprehensive functions in the world

3.Zhoushan ±200kV Five-infeed VSC-HVDC Transmission Demonstration Project, Zhejiang
A VSC-HVDC transmission project with the highest voltage level, largest number of infeeds and largest capacity per infeed

INFRASTRUCTURE CONSTRUCTION

基础设施建设

25%

占建筑主营业收入比重超过25%
并逐年攀升

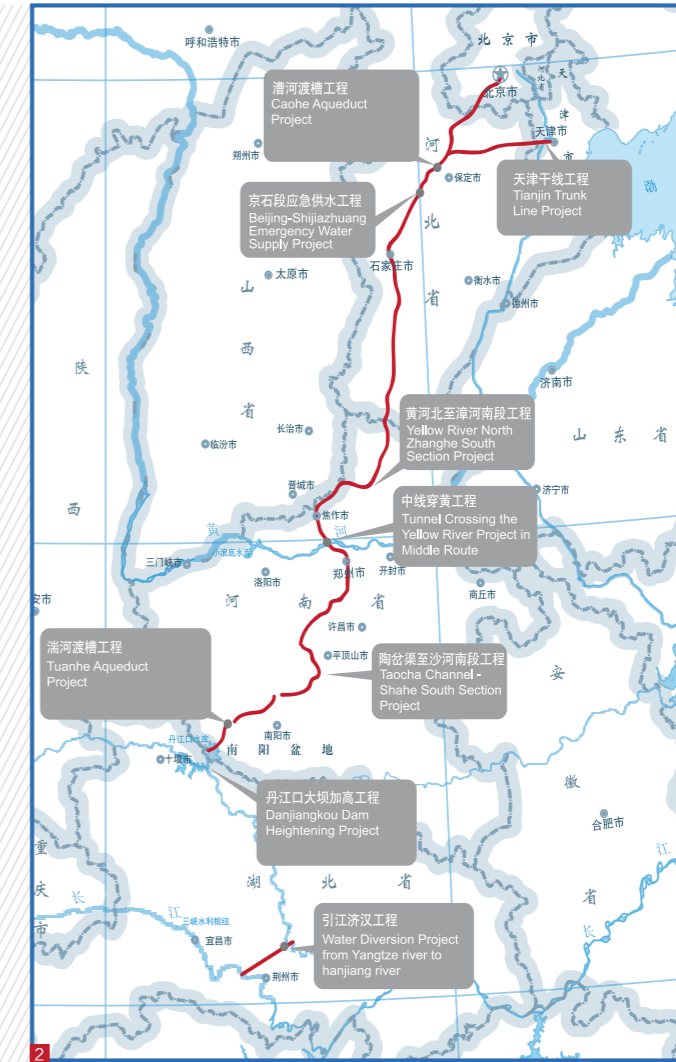
Accounting for over 25% of the revenue from construction and contracting segment Also experiencing rapid growth each year

采取 BT、BOT、PPP 等多种模式，在全球建设了数万项水利水务、公路、铁路、桥梁、矿山、港口、航道、机场、市政、环保、房屋等建筑工程，占建筑主营业收入比重超过 25% 并逐年攀升。

Energy China participated in the construction of thousands of water conservancy facilities, roads, railways, bridges, mines, ports, waterways, airports, municipal works, environmental protection and houses worldwide in models like BT, BOT, PPP and so on. Infrastructure construction accounts for over 25% of the revenue from construction and contracting segment and is also experiencing rapid growth each year.



- | | |
|------------------|-------------------------------------|
| 1. 沪蓉西高速公路双河口特大桥 | 1. Shuanghekou Bridge |
| 2. 马里巴马科第三大桥 | 2. The Third Bridge in Bamako, Mali |
| 3. 昆明新机场工程 | 3. Kunming New Airport, Yunnan |
| 4. 西藏拉日铁路 | 4. Lhasa - Xigazé Railway in Tibet |



- | | |
|-------------------------------|--|
| <p>1.沙河渡槽工程
世界最大的输水渡槽</p> | <p>1. Shahe Aqueduct Project
The world's largest water transfer aqueduct</p> |
| <p>2.南水北调工程</p> | <p>2. South-North Water Transfer Project</p> |
| <p>3.引江济汉工程</p> | <p>3. The Yangtze River-Han River Water Transfer Project</p> |
| <p>4.内蒙古乌海海勃湾水利枢纽</p> | <p>4. Haibowan Water Conservancy Hub in Wuhai, Inner Mongolia</p> |



1. 宜昌至喜长江大桥
2. 江苏苏州中环快速路（吴中段）
3. 宜昌磨基山森林公园

1.Zhixi Yangtze River Bridge in Yichang
2. Zhonghuan Expressway (Wuzhong Section) in Suzhou, Jiangsu
3. Mojishan Forest Park in Yichang

4. 深圳鼎和大厦
5. 卡塔尔玛丽莲商业广场项目
6. 安徽滁州安置房项目

4. Dinghe Building in Shenzhen
5. Qatar Marilyn Commercial Plaza Project
6. Chuzhou Housing Project, Anhui



INVESTMENT

投资业务

200

年投资规模逾200亿元

With an annual investment of over RMB 20 billion

投资业务涵盖交通、水泥、建材、民用炸药、能源、环保和金融等多个领域，年投资规模逾 200 亿元。

Energy China invests in many areas, such as transportation, cement, building materials, civil explosives, energy, environmental protection, finance and so on, with an annual investment of over RMB 20 billion.

民用爆破// CIVIL EXPLOSIVES

民用爆破业务形成工程爆破带动炸药和火工产品研发、生产和销售、技术服务的产业链；炸药产能位居全国第 4 位，安全环保型乳化炸药生产技术达到国际先进水平。

Energy China provides the products like bulk emulsion explosives, industrial explosives and initiating apparatus, and also provides integrated blasting services, with the operations in 16 provinces, autonomous regions and municipalities as well as the international markets. The production volume of civil explosives ranked the 4th in China. It also has the internationally advanced production technology of safe and environmentally friendly emulsion explosives.



水泥// CEMENT PRODUCTION

葛洲坝宜城水泥公司

水泥年产能逾 2500 万吨，拥有 19 家企业和全国最大的特种水泥生产基地。

CGGC Yicheng Cement Company

19 subsidiaries with an annual production capacity of over 25 million tones. The largest production base of specialty cement cement in China



“天下第一爆”三峡工程 RCC 围堰爆破

The blasting demolition of RCC cofferdam of the Three Gorges Hydroelectric Project, known as the world's largest-scale blasting



1. 矿山工程现场混装炸药生产系统
2. 乳化炸药混装车

1. Bulk emulsion explosives production on the mining site
2. Vehicle for bulk emulsion explosives

交通//
TRANSPORTATION

湖北襄荆高速公路

中国第一条 BOT 高速公路，全长 185.4km

Xiangyang-Jingzhou Highway in Hubei

Total length: 185.4 km, the first highway constructed in BOT model in China



沪汉蓉高速铁路
全长 2078km

Shanghai-Wuhan-Chengdu High-speed Railway
Total length: 2078km

电站//
POWER PLANTS



广西防城港火电厂
总装机容量 1200MW

Fangchenggang Fossil Fuel Power Plant, Guangxi
Total installed capacity: 1200 MW



REAL ESTATE DEVELOPMENT

房地产开发

16

国务院国资委首批核准的16家以房地产为主业的央企之一

One of the 16 central SOEs firstly approved by SASAC to have real estate development as its main business

国务院国资委首批核准的16家以房地产为主业的央企之一，业务覆盖北京、上海、广州、重庆、南京、武汉、三亚、乌鲁木齐等城市，涉及住宅地产、商业地产、旅游地产等领域。项目总占地面积近170万m²，总建筑面积约389万m²。

Energy China is one of the 16 central SOEs firstly approved by SASAC to have real estate development as its main business, operating in cities including Beijing, Shanghai, Chongqing, Nanjing, Wuhan, Sanya and Urumqi, with developments involving urban complex properties, commercial properties and tourism properties. The aggregate site area of these projects reaches nearly 1.7 million square meters, with a gross floor area of about 3.89 million square meters.



重庆欧麓花园城 Oulu Garden City, Chongqing



北京京杭广场 Jinghang Square, Beijing



上海臻园 Glorious Garden, Shanghai

EQUIPMENT
MANUFACTURING

装备制造

具有集能源与电力装备研发、设计、制造、集成、服务于一体的综合实力，拥有电站辅机设备、特高压电网装备、电气设备、核电站大型鼓形滤网、大型金结设备等国内技术领先产品，服务于电力、冶金、建材、煤炭、化工、交通等多个领域，产品销售和服务范围覆盖全国各地，遍及 40 余个国家和地区。

With comprehensive strength in the research & development, design, manufacturing, integration and services of electric power equipment, Energy China is capable of producing domestically advanced equipment, including the auxiliary equipment for power plants, UHV transmission equipment, electrical equipment, large drum strainers for nuclear power plant, large metal structure equipment and so on. These products are used in a host of areas including electric power, metallurgy, building materials, coal, chemical industry and transportation. Energy China has provided such equipment and related services across China and to over 40 countries and regions.



40

产品销售和服务范围覆盖全国各地
遍及40余个国家和地区

Providing such equipment and related services
across China and to over 40 countries and regions

1. 中速磨煤机 2. 集装箱式重油电站 3. ±800kV 特高压平波电抗器
4. 门机 5. 封闭母线 6. 核电鼓型滤网

1. Medium speed pulverizer 2. Container-type heavy oil power plant 3. ±800kV UHV flat wave reactor
4. Gantry cranes 5. Enclosed Busbar 6. Drum strainer

PART.03

61 资质能力 QUALIFICATION & CAPACITY

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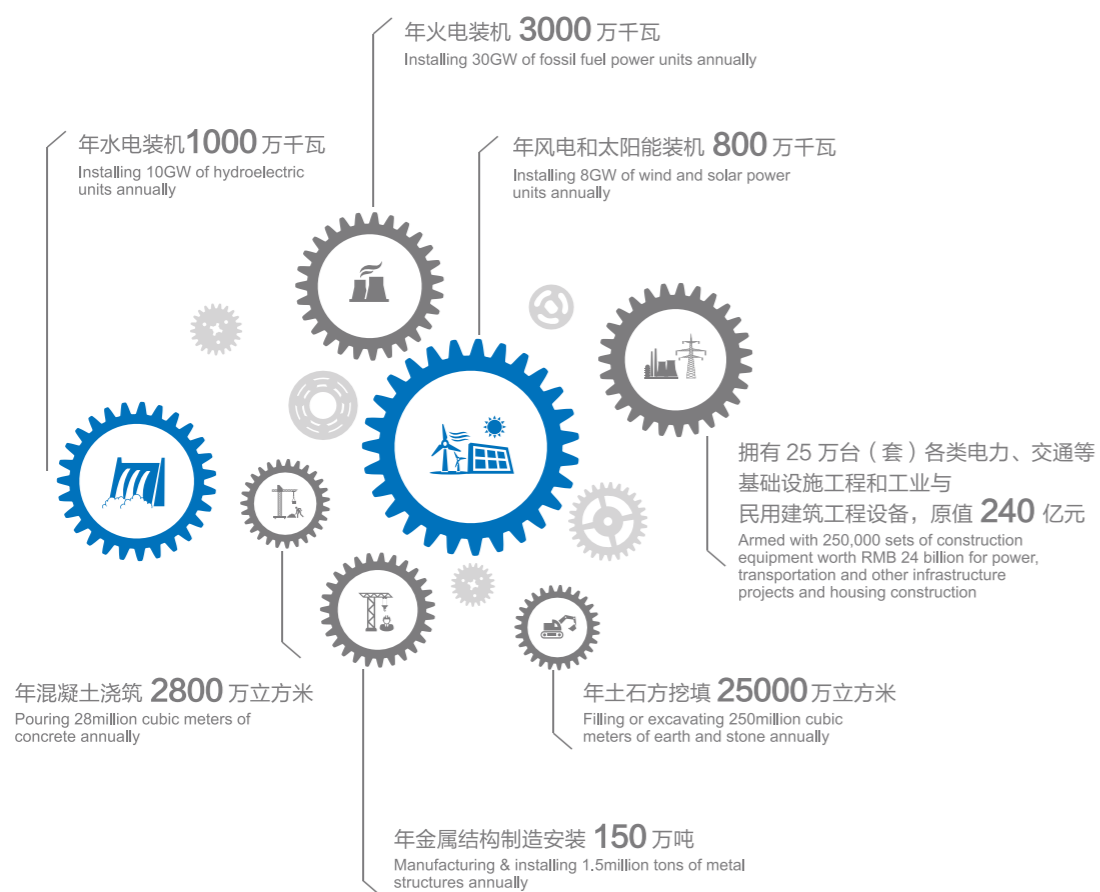
BRINGING ENERGY
TO THE WORLD
世界能源 中国能建

QUALIFICATION & CAPACITY

资质能力

拥有涵盖全产业链的近 1400 项各种资质权益，包括 22 个工程咨询甲级资格、8 个工程设计综合甲级资质、5 个工程施工总承包特级资质、110 个特种设备制造许可证、2 个房地产开发一级资质等各类最高等级资质。

Energy China holds nearly 1400 qualification certificates covering all its business segments, including 22 Grade A qualification certificates of engineering consultancy unit, 8 Comprehensive Grade A engineering design qualification certificates, 5 Premium qualification certificates of EPC contracting, 110 licenses for special equipment manufacturing and 2 First Grade qualifications for real estate development and other first rate qualifications.

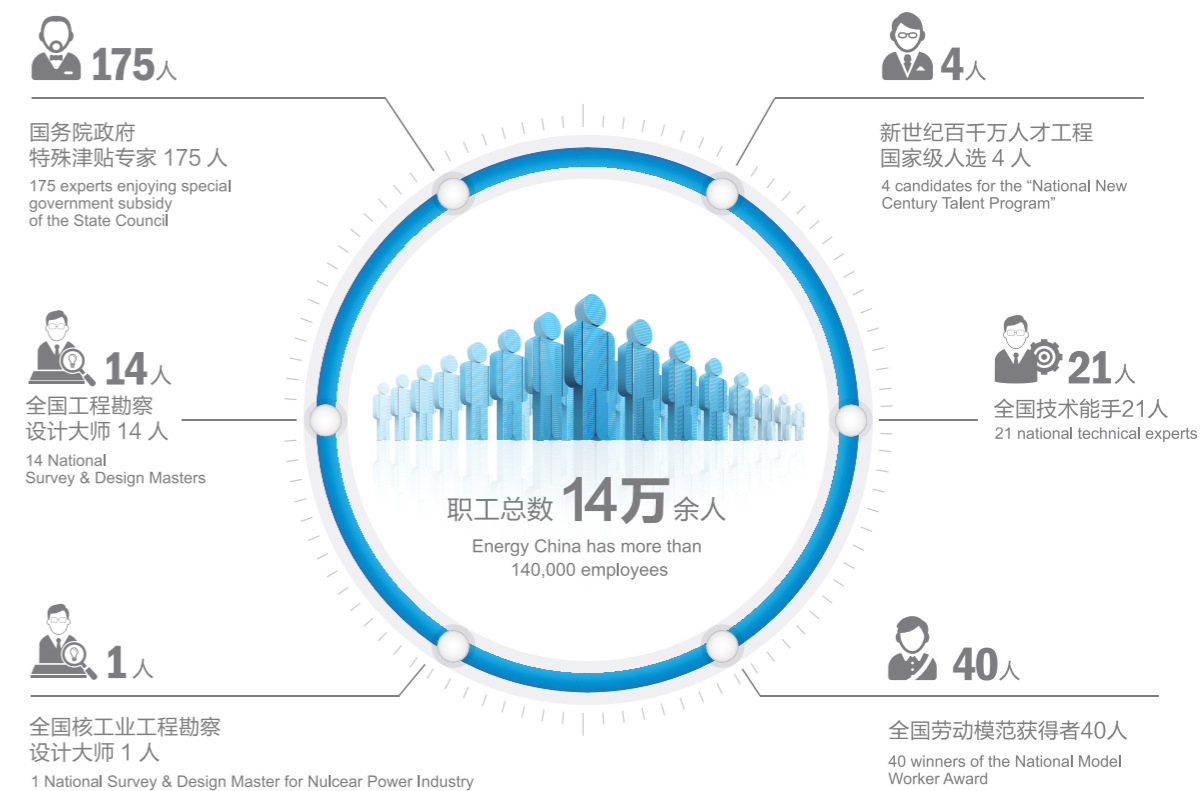


EMPLOYEES

人才队伍

职工总数 14 万余人，其中本科及以上学历人员占 33%，中级及以上职称人员占持证专业技术人员的 56%，高级工及以上人员占持证技能操作人员的 73%。

Energy China has more than 140,000 employees, of whom 33% hold at least a bachelor's degree. Among them, 56% of the accredited technical professionals have at least an intermediate professional title and 73% are at least senior technicians.

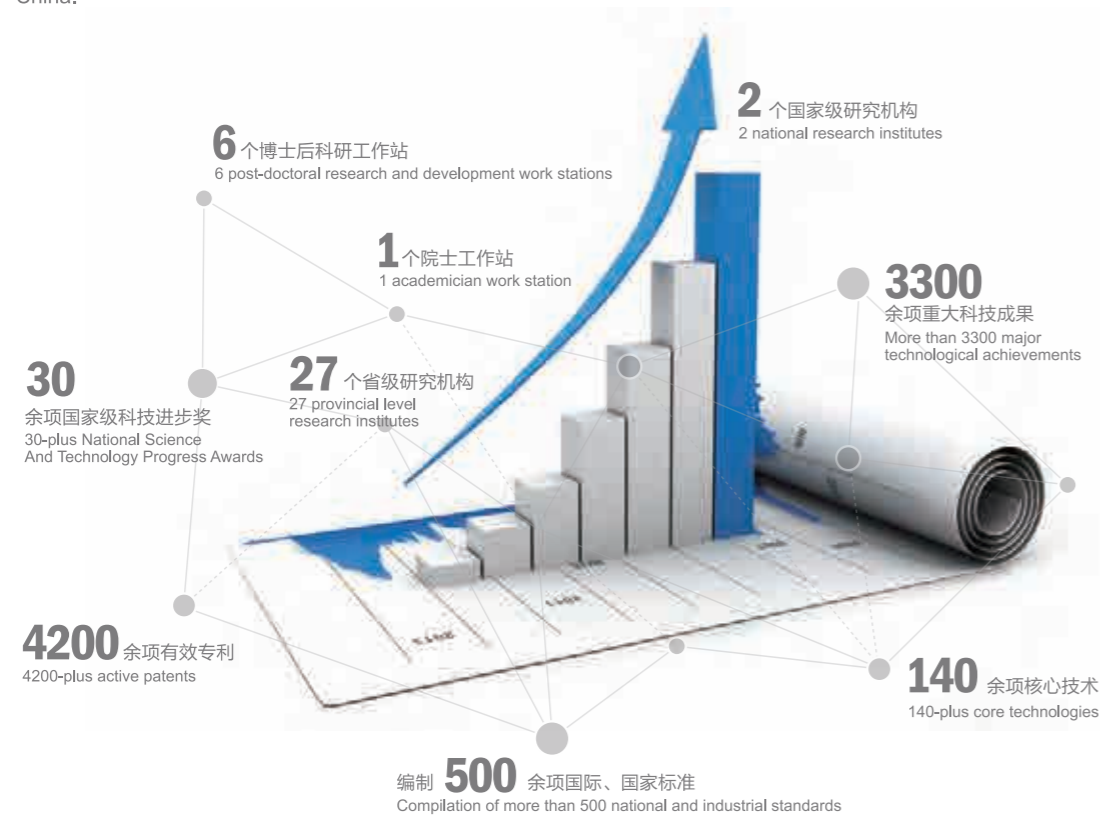


TECHNOLOGICAL STRENGTH

科技实力

拥有 2 个国家级研究机构，1 个院士工作站，6 个博士后科研工作站，27 个省级研究机构。取得重大科技成果 3300 余项，累计获得 30 余项国家级科技进步奖，拥有 4200 余项有效专利，拥有 140 余项核心技术，编制 500 余项国际、国家标准。

Energy China has 2 national research institutes, 1 academician work station, 5 post-doctoral research and development work stations and 27 provincial level research institutes, boasting more than 3300 major technological achievements, 30-plus National Science And Technology Progress Awards, over 4200 valid patents and 140-plus core technologies. It has compiled more than 500 national and industrial standards in China.

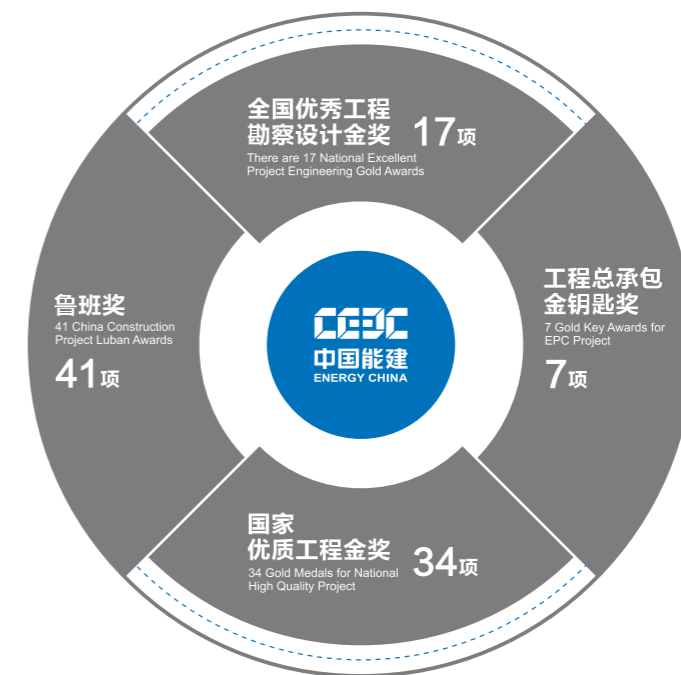


AWARDS AND HONORS

荣誉奖项

历年来获得省（部）级以上科技进步奖近千项，工程质量奖数千项。近十年来，参与勘察设计、建筑施工和总承包的工程项目获得国家级工程质量奖 350 余项。其中，全国优秀工程勘察设计金奖 17 项、国家优质工程金奖 34 项、鲁班奖 41 项、工程总承包金钥匙奖 7 项。

Over the years, Energy China has won thousands of provincial (ministerial or above) Science and Technology Progress Awards and Construction Quality Awards. In the past decade, over 350 National Engineering Quality Awards have been granted to projects designed, constructed or contracted in EPC model by Energy China. Of these honors, there are 17 National Excellent Project Engineering Gold Awards, 34 Gold Medals for National High Quality Project, 41 China Construction Project Luban Awards and 7 Gold Key Awards for EPC Project.



CORPORATE CULTURE

企业文化

系统建设特色企业文化，以促进企业和员工共同全面发展为根本宗旨，以人本管理为核心内容，以文化铸就合力，以品牌凝聚人心，推动企业由科学管理向文化管理跨越。

Energy China vigorously develops its unique corporate culture for the fundamental purpose of achieving common growth of the enterprise and its employees in an all-round way. With people-oriented management as the core, corporate culture development as the means to form synergy, and brand building as a way for inspiration, it is now transforming itself from scientific management to culture-based management.

核心理念// CORE CONCEPT

组织使命	世界能源 中国能建
战略愿景	行业领先 世界一流
核心价值观	“两善”价值观：能者善为 建则善成
企业精神	“两致”精神：共赢致和 行稳致远
企业宗旨	“两精”宗旨：精益创造价值 精品引领未来
企业作风	“两有”作风：携手开拓有胸怀 理性务实有效率
经营理念	“两为”理念：诚信为先 品质为本

行为准则// CODE OF CONDUCT

“两同两创”准则：同心同向 创新创效



SOCIAL RESPONSIBILITY

社会责任

遵循“自主创新、奉献社会、科学发展、共建和谐”的社会责任观，努力建设一流企业，追求企业、职工、利益相关方、社会与环境的和谐发展。

Following the CSR principle of “independent innovation, social contribution, scientific development and mutual harmony”, Energy China has been working hard to build itself into a first-class enterprise in pursuit of harmonious and common development of the enterprise, the employees, the stakeholders, the society and the environment.



1. 担负利比亚西区 11 家中资公司 12000 余人的撤离
2. 宁夏扶贫扬黄灌溉工程
3. 电网抗冰抢险
4. 绘制抗震救灾信息全息指挥图
5. 捐资 3500 万元，兴建新疆定居兴牧骨干工程 — 新源县那拉提渠首及干渠灌溉工程
6. 赤道几内亚民用水井公益项目

1. Responsible for evacuating more than 12, 000 employees of 11 PRC enterprises from Western Libya
2. Ningxia Yellow River pumping irrigation project for poverty relief
3. Power grid anti-ice and disaster relief
4. Drawing a holographic map for earthquake relief commanding
5. Donating RMB 35 million to construct the housing and irrigation projects in Xinjiang
6. Civilian-use water wells constructed as public welfare projects in Equatorial Guinea



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