



中国电力建设集团有限公司
POWER CONSTRUCTION CORPORATION OF CHINA

联系地址：北京市海淀区车公庄西路22号
邮政编码：100048
公司网址：<http://en.powerchina.cn>
公司微信：电建微言

Address: NO.22, Chegongzhuang West Road, Haidian District, Beijing, P.R.China
Zip code: 100048
Company Website: <http://en.powerchina.cn>
Company Wechat Platform: Dianjianweiyen

印象巴基斯坦

A GLIMPSE OF PAKISTAN

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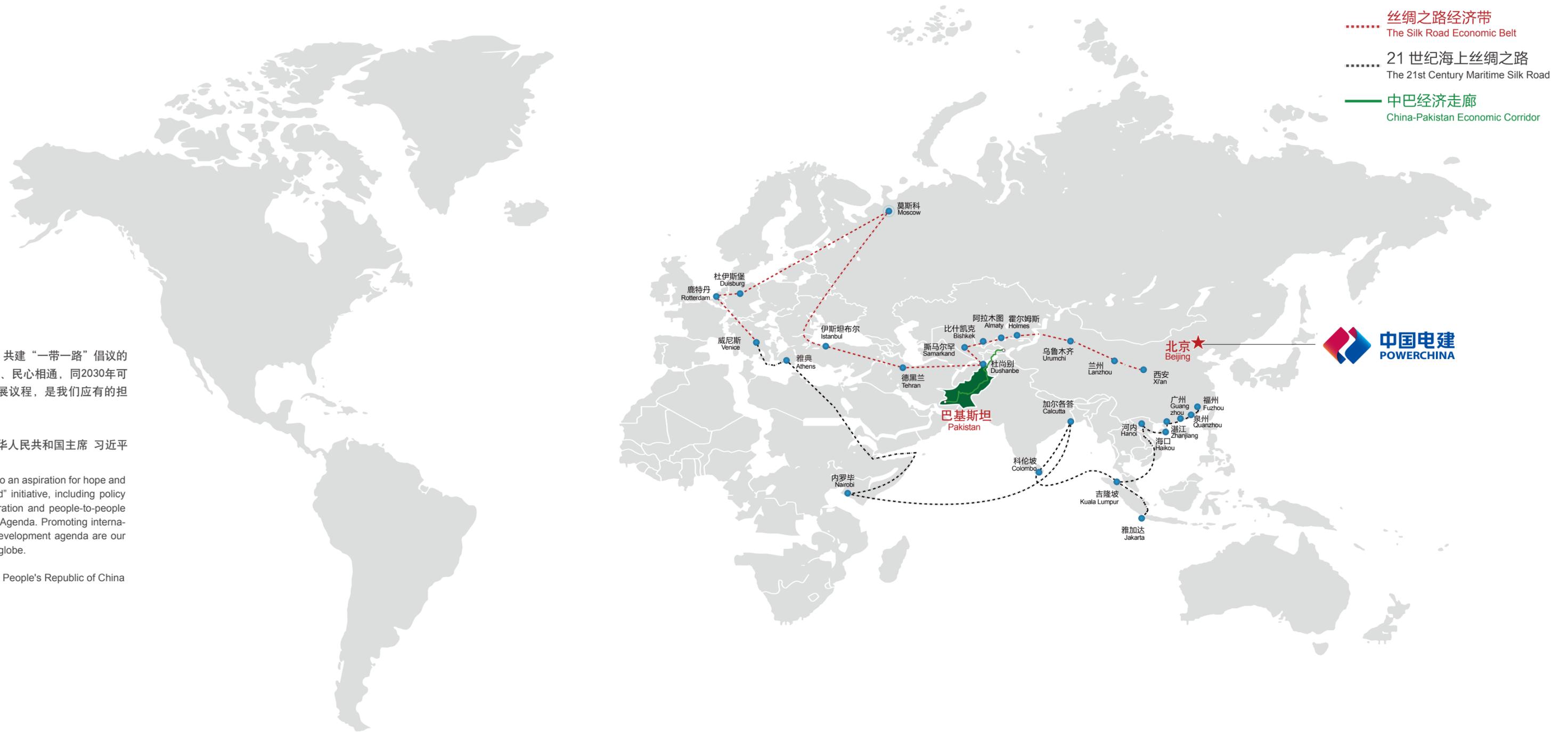
“一带一路”是一条合作之路，更是一条希望之路、共赢之路。共建“一带一路”倡议的理念和方向，包括政策沟通、设施联通、贸易畅通、资金融通、民心相通，同2030年可持续发展议程高度契合。推进国际发展合作，落实可持续发展议程，是我们应有的担当，造福世界，造福人民。

——中华人民共和国主席 习近平

The Belt and Road Initiative (BRI) is a call for cooperation, and it is also an aspiration for hope and win-win solutions. The concept and direction of "The Belt and Road" initiative, including policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds are highly consistent with the 2030 Sustainable Development Agenda. Promoting international development cooperation and implementing the sustainable development agenda are our due responsibilities, which bring benefits to all the people around the globe.

—— Xi Jinping, President of the People's Republic of China

丝绸之路、中巴经济走廊地理图
Geographic Map of Silk Road and China-Pakistan Economic Corridor



巴基斯坦伊斯兰共和国 ISLAMIC REPUBLIC OF PAKISTAN

巴基斯坦伊斯兰共和国(乌尔都语: اِنٲاتسڪاپ ۛىروم ۛم ۛمالسا, 英语: Islamic Republic of Pakistan), 简称“巴基斯坦”(Pakistan), 意为“圣洁的土地”、“清真之国”。95%以上的居民信奉伊斯兰教, 是一个多民族伊斯兰国家。国语为乌尔都语。

巴基斯坦位于南亚次大陆西北部, 南濒阿拉伯海, 东接印度, 东北邻中华人民共和国, 西北与阿富汗交界, 西邻伊朗。海岸线长980公里。南部属热带气候, 其余属亚热带气候。首都伊斯兰堡。

巴基斯坦是经济快速增长的发展中国家, 也是世界贸易组织、伊斯兰合作组织、77国集团、不结盟运动、上海合作组织和英联邦成员国。

The Islamic Republic of Pakistan(Urdu: اِنٲاتسڪاپ ۛىروم ۛم ۛمالسا) is a multi-ethnic Islamic nation where more than 95% of the inhabitants believe in Islam. Urdu is the official language.

Pakistan is located in the northwest of the South Asian Subcontinent, bordering the Arabian Sea in the south, India in the east, the People's Republic of China in the northeast, Afghanistan in the northwest and Iran in the west. The coastline is 980 kilometers long. The southern part of the country has a tropical climate, while the rest has a subtropical climate. Islamabad is the capital city.

Pakistan is a developing country with fast economic growth. It is also a member of the World Trade Organization, the Organization of Islamic Cooperation, the Group of 77, the Non-Aligned Movement, the Shanghai Cooperation Organization and the Commonwealth.



目录 CONTENTS

POWERCHINA
BEING THE BACKBONE **08**
我们 **卓越电建**



BRING
LIGHT TO HOUSEHOLDS **14**
星火 **点亮万家**



CONVERGENCE
OF STRENGTHS **32**
奔流 **汇聚力量**



CLEAN
ENERGY CLEAR SKY **62**
清风 **洁净天地**



HARMONY
FRIENDSHIP AND PROGRESS **76**
和谐 **友好共进**



印象巴基斯坦

A GLIMPSE OF
PAKISTAN



POWERCHINA
BEING THE BACKBONE

POWERCHINA **印象巴基斯坦**
BEING THE BACKBONE
我们 **卓越电建**

中国电建简介 Company Profile	09
中国电建在巴基斯坦 Glimpse Of Projects In Pakistan	11



中国电建简介 COMPANY PROFILE

中国电力建设集团有限公司(简称:中国电建)是全球能源电力、水资源与环境、基础设施及房地产领域提供全产业链集成、整体解决方案服务的综合性特大型建设集团,主营业务横向跨越国内外能源电力、水利、铁路(地铁)、公路、机场、房屋建筑、水环境治理、市政基础设施及大土木、大建筑多行业,纵向覆盖投资开发、规划设计、工程承包、装备制造、项目运营等工程建设及运营全过程,具有“懂水熟电,擅规划设计,长施工建造,能投资运营”的核心能力和产业链一体化的突出优势。

作为全球规模最大、产业链最完整的电力建设企业,中国电建致力于服务全球能源和基础设施建设,紧跟国家“一带一路”倡议,投资并参建了巴基斯坦卡西姆港燃煤电站、中老铁路、印尼雅万高铁等重点项目,为业主、为社会奉献了一系列的精品工程。

2019年,中国电建位居《财富》世界500强企业第161位,ENR全球工程设计公司150强第2位。

POWERCHINA is an integrated construction group that provides integrated solutions across the whole value chain for global power, water resource and environment, infrastructure and real estate. Our primary businesses cover investment training planning development, survey and design, project contracting equipment manufacturing and operation in power and energy, water irrigation and conservation, railway (and subway), road, airport, housing construction, water environment conservancy, urban infrastructure, and large-scale civil engineering and construction projects. Our core capabilities over the whole industry chain give us competitive edge in the above areas.

As the world's largest power construction enterprise with complete industrial chain, POWERCHINA is committed to serving the global energy and infrastructure development. Following the "Belt And Road initiative", POWERCHINA invests and participates in construction of Port Qasim 1320MW coal-fired power plant, China-Laos railway, Indonesia's Jakarta-Bandung high-speed railway and other key projects, contributing a series of quality projects to various owners and community.

In 2019, POWERCHINA ranked 161st among the Fortune Global 500 and 2nd among the ENR(Engineering News Record) Top 150 Global Design Firms.

中国电建在巴基斯坦

POWERCHINA IN PAKISTAN

中国电建是参与推进中巴经济走廊建设的重要企业之一，在电力建设、基础设施等工程领域占据领先的市场份额。

POWERCHINA is one of the key enterprises in promoting the China-Pakistan Economic Corridor, and has a leading market share in power and infrastructure sectors.



中国电建于1987年进入巴基斯坦市场，充分发挥“懂水熟电、擅规划设计、长施工建造、能投资运营”的优势，作为能源电力和基础设施项目的投资商和建设商参与到巴基斯坦国别市场具体项目的开发建设中。中国电建投资了卡西姆港1320MW燃煤电站项目和大沃50MW风电项目，累计投资总额22亿美元。工程建设方面，截至目前，中国电建在巴基斯坦市场已累计完成项目40个，累计完成合同额约60亿美元；目前正在实施项目有22个，合同额约28亿美元。在中巴经济走廊20个早期收获项目中，中国电建参与了电力和基础设施8个CPEC项目的投资和建设，分别是卡西姆、大沃、sachal风电、PKM高速公路、拉合尔橙色线、萨西瓦尔燃煤电站、卡洛特水电站、塔尔二区煤电一体化。

目前中国电建培训和带动了超过数万名当地人员的职业技能提升和就业，共同成长和发展。

中国电建在巴基斯坦联合巴基斯坦企业和世界领先的电力制造商一起共同建设了装机达到730.2万千瓦的电力项目，是当地电力建设市场的领先者，涵盖了巴基斯坦装机最大的燃煤电站卡西姆港燃煤电站和萨希瓦尔燃煤电站(各装机1320MW)，巴基斯坦装机最大的水电站塔贝拉水电站四期扩建土建工程(1410MW)、巴基斯坦装机最大的赫维利1230MW联合循环燃气电站和9个风电总承包项目(530MW)等，这些电站项目均已投产发电，为缓解巴基斯坦电力短缺问题作出了突出的贡献。

POWERCHINA entered the Pakistan market in 1987, giving full play to the advantages of "Proficiency in Water and Power Development specialization in Planning and Design, Excellence in Construction, Competence in Investment and O&M". As an investor and constructor of power and infrastructure projects, POWERCHINA invested Port Qasim 1320MW Coal-fired Power Station and Dawood 50MW Wind Farm, with a total investment of US\$ 2.2 billion. In terms of engineering and construction, up to now, POWERCHINA has completed 40 various projects in Pakistan, with a total contract value of approximately US\$6 billion; 22 projects are currently being executed with a total contract value of approximately US\$2.8 billion. Among the 20 early harvest projects of CPEC, POWERCHINA participated in the investment and construction of 8 projects in power and infrastructure sector, Port Qasim Coal-fired Power Station, Dawoo Wind Farm, Sachal Wind Farm, PKM High-Speed way, Lahore Orange Line, Sahiwal Coal-fired Power Station, Karot Hydropower Station, Thar Block Mining and Power Project.

Presently, POWERCHINA has employed and provided training for over 10000 local staff, who enjoy personal growth and development.

POWERCHINA is a leading player in the local power construction market. With local Pakistan companies and the world leading power manufacturers, has accomplished multiple power projects with a total installed capacity of 7302 MW, among which are the two largest coal-fired power stations in Pakistan, i.e. Port Qasim Coal-fired Power-station and Sahiwal Coal-fired Power Station, each with 1320MW installed capacity. POWERCHINA also completed the EPC of Haveli Bahadur Shah 1230MW gas-fired combined cycle power station, which is the largest among its peer in Pakistan and one of the most efficient combined cycle power plants in the world. In Hydropower Sector, POWERCHINA carried out the civil works of the fourth-stage expansion for Tarbela Hydropower Station(1410MW), being the largest installed hydropower station (4880MW) in Pakistan till now. In renewable energy sector, POWERCHINA has built 9 wind farms(530MW) in Sindh Province as the EPC contractor. All aboved-mentioned power generation projects have been put into commercial operation, and greatly alleviated the power shortage in Pakistan.

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星火 点亮万家



卡西姆港1320MW燃煤电站 15
Port Qasim 1320MW Coal-fired Power Plant Project



赫维利1230MW联合循环燃气电站 21
Haveli Bahadur Shah 1230MW Combined Cycle Power Plant Project



LUCKY660MW燃煤电站 25
Lucky 660MW Coal-fired Power Plant Project



萨希瓦尔1320MW燃煤电站 27
Sahiwal 1320MW Coal-fired Power Plant Project



南迪普425/525MW燃气蒸汽联合循环电站 29
Nandipur 425/525MW Gas-fired Combined Cycle Power Plant Project

2



卡西姆港1320MW燃煤电站 PORT QASIM 1320MW COAL-FIRED POWER PLANT PROJECT

巴基斯坦卡西姆港燃煤由中国电建集团海外投资有限公司和卡塔尔王室下设投资公司分别以51%:49%股比联合投资开发，是中巴经济走廊首批优先实施的大型电力能源项目。

2015年4月，在中国国家主席习近平访问巴基斯坦期间，在习近平主席和时任巴基斯坦总理的共同见证下，签订了项目投资协议。

电站位于卡拉奇市东南方约37公里处卡西姆港口工业园内，采用2台660MW机组，总容量1320MW，电站拥有独立码头，投产发电后年均发电量约90亿度，能够满足400万家庭用电。燃料采用进口燃煤，机组采用世界领先的超临界燃煤技术，用海水二次循环冷却和海水淡化补水，采用石灰石-石膏湿法脱硫，满足当地和世行环境保护标准。电力出线通过500kV交流输电线路与巴基斯坦国家电网相连接。该项目于2015年5月正式开工建设，首台机组于2017年11月10日并网发电，电站于2018年4月25日顺利进入商业运行。



Port Qasim Coal-fired Power Plant Project is jointly developed by POWERCHINA Resources Limited (51% shares) and Al Mirqab Capital (49% shares), which is one of the Top Priority Energy Projects of the China Pakistan Economic Corridor (CPEC).

The Implementation Agreement and Power Purchase Agreement were signed under the witness of H.E. Mr. Xi Jinping, President of the People's Republic of China and the then Prime Minister of the Islamic Republic of Pakistan during President Xi's visit to Pakistan in April 2015.

This power plant is located in the Port Qasim Industrial Park, approximately 37km southeast from the city of Karachi, comprising of two units with gross capacity of 1,320MW and an exclusive coal-unloading jetty. The average annual energy output is around 9000GWh after its completion, and is expected to support 4 million households' daily power consumption. Adopting world's leading supercritical thermal technology, the secondary seawater circulating and cooling system, seawater desalination system and limestone-gypsum wet desulfurization, the project meets the environmental protection standards of Pakistan and the World Bank. With imported coal, the power is transmitted to Pakistan State Grid through a 500kV A/C line. The construction work commenced in May 2015 with the 1st unit injecting power to the grid on 10th November, 2017, and the whole project reaching COD on 25th April, 2018.





2018年7月17日，卡西姆港发电有限公司获得巴基斯坦第15届年度环保大奖以表彰中国电建和卡西姆电站对巴基斯坦环境保护作出的突出贡献。

On July 17, 2018, Port Qasim Electric Power Company (Private) Limited won the 15th Annual Environmental Excellence Award of Pakistan for the outstanding contribution made by POWER-CHINA and this Project to Pakistan's environmental protection.





赫维利1230MW联合循环燃气电站

HAVELI BAHADUR SHAH 1230MW COMBINED CYCLE POWER PLANT PROJECT

巴基斯坦赫维利1230MW联合循环燃气电站项目位于旁遮普省Jhang地区，业主为巴基斯坦国家电力管理公司(NPPMCL)，项目由中国电建集团和QAVI公司联营体EPC总承包，合同金额5.89亿美元。

赫维利燃气电站是巴基斯坦规模最大的联合循环燃气电站，也是迄今为止世界上最高效的联合循环电厂之一(超过62%)，可满足当地250万户家庭的用电需求。

中国电建在该项目上高效履约，创下了两台9H燃机从就位到点火分别仅用90天和72天的世界最快纪录。





Haveli Bahadur Shah 1230MW Combined Cycle Power Plant Project is located in Jhang area of Punjab Province. The Project Sponsor is National Power Parks Management Company Pvt.Limited (NPPMCL). The Project EPC Contractor is the JV of POWERCHINA and Qavi Engi-neers(Pvt.)Limited(QEL).

Haveli Bahadur Shah 1230MW CCPP Project is Pakistan's largest gas-fired combined cycle power plant and one of the most efficient combined cycle power plants in the world. It can meet the electricity demand of over 2.5 million households among its completion.

During the construction of this project, POWERCHINA's high efficiency and excellent performance have set the world records. For the installation of the 2 9H gas units, it only took 90 and 72 days respectively from being lifted on foundation till ignition.



LUCKY660MW燃煤电站

LUCKY 660MW COAL-FIRED POWER PLANT PROJECT



巴基斯坦幸运660MW燃煤电站项目位于信德省卡西姆港工业园内，业主为巴基斯坦幸运电力公司。EPC总承包方是中国电建集团旗下山东电力建设第三工程公司(SPEC0III)，项目于2018年4月份正式开工，合同约定商业运行COD时间为2021年3月1日，合同额5.68亿美元。

该项目是巴基斯坦境内首个塔式炉电站，同时也是褐煤容量最大的燃煤电站机组，具有高效、清洁、环保的特点。采用巴基斯坦本土塔尔煤田煤炭资源，对于改善巴基斯坦电力结构，提高燃料自给程度的作用明显，建成后将极大缓解巴基斯坦电力短缺状况。

Pakistan's Lucky 660MW Coal-fired Power Plant Project is located in Port Qasim Industrial Zone, Sindh and is owned by Lucky Electric Power Company Ltd. The EPC contractor is SEPCOIII Electric Power Construction Co., Ltd., the subsidiary of POWERCHINA. The project was officially started in April 2018 and the expected COD date in March 1st,2021, with a contract value of US\$568 million.

This project is the first tower furnace power station in Pakistan and the largest lignite coal-fired power plant unit, being highly efficient clean and environmental friendly. The use of Pakistan's local Thar coalfields will greatly improve Pakistan's generation mix and enhance fuel self-sufficiency. Upon completion, it will greatly alleviate Pakistan's power shortage.



萨希瓦尔1320MW燃煤电站 SAHIWAL 1320MW COAL-FIRED POWER PLANT PROJECT

巴基斯坦萨希瓦尔2X660MW燃煤电站项目位于旁遮普省萨希瓦尔市，由中国华能山东发电有限公司和中国山东如意集团共同投资建设。项目建设两台660兆瓦超临界燃煤发电机组，年发电量可达90亿千瓦时，萨希瓦尔电站是中巴经济走廊优先实施项目。

本项目EPC合同签约方为中国电建集团旗下核电工程有限公司，主体施工由中国电建集团山东电力第一工程有限公司承担，项目于2015年7月开工建设，2017年5月并网发电。

该项目荣获中国“国家优质工程金奖”、旁遮普省政府“工程建设安全奖”、“绿色文明施工”等多项殊荣。

SAHIWAL 1320MW Coal-fired Power Plant Project is located in Sahiwal City, Punjab Province, and is jointly invested by China Huaneng Shandong Power Generation Co., Ltd. and Shandong Ruyi Group. The project comprises of two 660MW supercritical coal-fired generating units with an annual generating capacity of 9000Gwh. The Sahiwal power station is one of the Top Priority Projects under the China-Pakistan Economic Corridor.

The EPC contractor of this project is Nuclear Power Engineering Co., Ltd., a subsidiary of POWERCHINA, and the main construction and erection work was completed by SEPCO1, another subsidiary of POWERCHINA. The construction work started in July 2015. In May 2017, it was connected to the grid to inject power and became the first coal-fired power station put into commercial operation under CPEC.

The project won many awards such as China's "National Quality Engineering Gold Award", Punjab Provincial Government's "Engineering Construction Safety Award" and "Green Construction Award".

南迪普425/525MW燃气蒸汽联合循环电站 NANDIPUR 425/525MW GAS-FIRED COMBINED CYCLE POWER PLANT PROJECT

南迪普425/525MW燃气蒸汽联合循环发电机组运行维护交钥匙工程由中国电建旗下中国电建湖北工程有限公司承建，项目位于巴基斯坦旁遮普省，主要工作内容是10年以上的电站(525MW)运行和维护，2018年1月6日正式进入合同周期，本项目是巴基斯坦发电厂第一个国际招标的运维交钥匙工程项目。

Nandipur 425/525MW gas-fired combined cycle power plant project, is located in Gujranwala district, Punjab Province.

Hydro Electric Power System Engineering Company (HEPSEC), a subsidiary of Power Construction Corporation of China (POWERCHINA), serves as the O&M turnkey contractor of this power plant from the commencement date of January 6, 2018 for over 10 years.

Nandipur gas-fired combined cycle power station is the first one adopting O&M turnkey model through international competitive bidding in Pakistan.



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奔流 ◆ 汇聚力量

	高摩赞大坝综合水利枢纽工程 Gomal Zam Dam Multipurpose Project	33
	巴罗塔水电站 Ghazi-Barotha Hydropower Project	37
	杜柏华水电站 Duber Khwar Hydropower Project	39
	达瓦特大坝 Darawat Dam Project	41
	卡拉奇克里夫顿排洪项目 Storm Water Drains From Clifton Bridge To Nehar-e-khayyam, Karachi, Pakistan	45
	特瑞穆拦河坝项目 Trimmu Barrage Rehabilitation And Upgradation Project	47
	旁遮普省水利修复工程 The Irrigation Canal And Barrage Projects In Punjab Province	49
	汗华水电站 Khan Khwar Hydropower Project	53
	塔贝拉水电站四期扩建项目 Tarbela 4th Extension Hydropower Project	55
	曼格拉水电站项目 Mangla Refurbishment Project	59

3

高摩赞大坝综合水利枢纽工程

GOMAL ZAM DAM MULTIPURPOSE PROJECT





高摩赞大坝综合水利枢纽工程位于巴基斯坦西北部开伯尔-普赫图赫瓦省D.I.KHAN(迪尔汗市)地区South Waziristan(南瓦济斯坦)部族地区的高摩赞(GOMAL ZAM)河上。项目业主为巴基斯坦水电开发署(WAPDA)，由FWO EPC总承包，中国水利水电建设集团与FWO共同建设。

高摩赞大坝综合水利枢纽工程以灌溉为主，为解决该地区的灌溉问题，在19世纪末就已有建设该项目的构想，20世纪60年代前南斯拉夫能源公司以及80年代法国公司均做过坝址区地质勘查，进行可行性研究。该项目总库容14亿立方米；大坝为巴基斯坦首座碾压混凝土拱形重力坝，坝高133米。

The Gomal Zam Dam Multipurpose Project is located on the Gomal Zam River in the South Waziristan tribal area of the D.I.KHAN region of Khyber Pakhtunkhwa province in northwestern Pakistan. The project employer is Pakistan Water and Power Development Authority (WAPDA), with FWO being the EPC Contractor and Sinohydro and FWO being the main constructors.

The Gomal Zam Dam integrated water conservancy project is mainly for irrigation. In order to solve the irrigation problem in the area, the concept of the project was formulated at the end of the 19th century. The former Yugoslav energy company and a French company have respectively conducted geological exploration in 1960s and 1980s in the dam site for feasibility study. The project has a total storage capacity of 1.4 billion cubic meters; the dam is Pakistan's first RCC arch gravity dam with a dam height of 133 meters.



巴罗塔水电站 GHAZI-BAROTHA HYDROPOWER PROJECT

巴罗塔水电工程位于巴基斯坦旁遮普省境内，距首都伊斯兰堡约90公里，位于塔贝拉下游9公里，装机145万千瓦，占巴基斯坦国家当时电网总装机容量的10%。业主为巴基斯坦水电开发署(WAPDA)，工程师为美国哈扎(HMW)、英国(Binni)和巴当地Nespa等五家咨询公司所组成的联合咨询公司。

1996年11月，时任中国国家主席江泽民和巴基斯坦前总统莱加里出席了合同的签字仪式。中国电建旗下中国水电八局在1996年、1997年参与建设厂房发电枢纽及附属建筑物、闸门设备等工程，合同总金额约为3.54亿美元。

2003年8月19日，巴罗塔水电站第一、二台机组按期投入商业发电运行。2004年9月17日工程全部竣工。2005年9月17日监理工程师签发缺陷责任完成书。

Ghazi-Barotha Hydropower Project is located in Punjab Province, Pakistan, about 90 km from the capital Islamabad, 9 km downstream of Tarbela Dam. It has an installed capacity of 1450MW, accounting for 10% of the then total installed capacity connected into the grid. The employer is the Pakistan Water and Power Development Authority (WAPDA), and the owner's engineer is a consulting consortium consisting of five consulting firms, such as HMW, Binni and Nespa.

In November 1996, Jiang Zemin, the then President of China, and former Pakistani President Leghari attended the signing ceremony. In 1996 and 1997, POWERCHINA participated in the construction of powerhouse, auxiliary facilities and installation of gate equipment etc. The total contract amount is about 354 million US dollars.

On 19th August, 2003, the first and second units of the Ghazi-Barotha Hydropower project achieved commercial operation on schedule. The whole project was completed on 17th September, 2004. On 17th September, 2005, the owner's engineer issued the certificate for the completion of defects liability.



杜伯华水电站 DUBER KHWAR HYDROPOWER PROJECT

巴基斯坦杜伯华水电站项目位于INDUS KOHISTAN地区，印度河右岸一条支流杜伯华河上。

杜伯华水电站工程主要由水库，大坝，引水隧洞，沉砂池，电站厂房等组成，水库总容量53.6万m³，坝型为混凝土重力坝，坝高32米，电站装机130MW。

项目业主为巴基斯坦水电开发署(WAPDA)，由中国电建所属企业承建，于2014年1月21日完工。



The Duber Khwar Hydropower Project is located in the INDUS KOHISTAN area and on the Duber Khwar river, a tributary on the right bank of the Indus River.

This Project consists mainly of reservoirs, dams, diversion tunnels, grit chambers, power plant buildings, etc. The total reservoir capacity is 536,000m³, and the dam type is concrete gravity dam with 32 meters height and installed capacity of 130MW.

The project employer is Pakistan Water and Power Development Authority (WAPDA), and EPC Contractor is POWERCHINA Stecol Corporation. The construction was completed on 21st January, 2014.

达瓦特大坝 DARAWAT DAM PROJECT

由于巴基斯坦信德省水利资源紧张，为了满足缺水地区的土地灌溉用水需求，使闲置的土地变成可种植的肥田，巴基斯坦政府规划了达瓦特大坝项目。业主为巴基斯坦水电开发署(WAPDA)。中国电建旗下中国水电EPC承包了该项目，主要包括大坝主体、大坝引水系统和灌区渠道系统。

该项目2010年6月开工，2014年8月31日竣工，并采用了世界上领先的“混凝土骨料预冷生产技术”，“仓面喷雾降温”大体积混凝土温控技术。



Due to the limited water resources in Sindh, the Pakistani government has planned the Darawat Dam Project to provide irrigation water for drylands and turn idle land into fertile farmland. The project owner is Pakistan Water and Power Development Authority (WAPDA), and EPC contractor is Sinohydro, whose job mainly includes the dam main body, the water diversion system and the irrigation channel system.

The project started in June 2010 and was completed on 31st August, 2014. It also adopted the world's leading "concrete aggregate pre-cooling production technology" and "small surface spray cooling" mass concrete temperature control technology.



卡拉奇克里夫顿排洪项目 STORM WATER DRAINS FROM CLIFTON BRIDGE TO NEHAR-E- KHAYYAM, KARACHI, PAKISTAN

巴基斯坦卡拉奇克里夫顿排洪项目位于巴基斯坦卡拉奇市内，项目业主是卡拉奇供排水局，项目签约方为中国水电集团，资金来源于当地政府资金。

该项目为紧急排洪工程，工期仅为6个月，铺设长约2.85公里的预制钢筋混凝土矩形箱涵。项目于2006年12月26日开工，2007年6月28日完工。项目建成后，极大增强了克里夫顿区的市政排洪功能，改善了城市环境。

The Storm Water Drains Project from Clifton Bridge to Nehar-E-Khayyam was located in the city of Karachi, Pakistan. The project employer is KW&SB and Sinohydro, The source of project fund is from local government budget.

This project is for an urgent drainage purpose with only 6month duration. The main scope of work is construction of 2.85km long precast reinforcement concrete rectangular conduits. The project commenced on 26th December, 2006 and was completed on 28th June, 2007. This project greatly enhanced, the municipal flood discharge function and improves the urban environment of Karachi.



特瑞穆拦河坝项目 TRIMMU BARRAGE REHABILITATION AND UPGRADATION PROJECT

巴基斯坦特瑞穆拦河坝修复升级项目位于旁遮普省Jhang地区，项目业主为巴基斯坦旁遮普省灌溉局，资金来源为政府自有资金及亚洲开发银行贷款。

本项目是旁遮普省灌溉系统的重要组成部分，建成将进一步增大灌溉面积，提升防洪能力，促进当地农业发展。

中国水电建设集团国际工程有限公司于2015年9月23日与项目业主签订合同，项目于2016年6月开工建设。



Trimmu Barrage Rehabilitation and Upgradation Project is located in the Jhang area of Punjab, Pakistan. The project employer is the Punjab Irrigation Department of Pakistan. The project is funded by the government budget and loan from Asian Development Bank.

This project is an important part of the irrigation system in this province. Its completion will further expand the irrigation area, improve the flood control capacity, and promote local agricultural development.

Sinohydro signed a contract with the project employer on 23rd September, 2015. The project started construction in June 2016.

旁遮普省水利修复工程

THE IRRIGATION CANAL AND BARRAGE PROJECTS IN PUNJAB PROVINCE

旁遮普省是巴基斯坦农业最发达的省份，有“粮仓”之称，盛产小麦、水稻和棉花等。旁遮普政府为修复升级水利系统和灌溉渠道，由旁遮普省灌溉局负责对既有水利设施修复升级工作进行国际招标，亚洲开发银行提供资金支持。项目业主为旁遮普省灌溉局。

中国水电建设集团国际工程有限公司与业主先后签订了卡内瓦尔分流系统修复升级工程、帕克帕坦渠道改造和苏勒曼奇拦河坝升级三个水利项目的工程合同。三个项目于2013年开工建设，并先后于2017年和2018年完工。

项目建成后有效提高了方圆几十平方公里的灌溉能力，并解决渠道附近居民、牲畜的饮水问题，为当地的农业发展做出了贡献。





Punjab province is the most developed agricultural area in Pakistan and is known as the “granary” of wheat, rice and cotton. In order to repair and upgrade the water conservancy system and irrigation channels, the Punjab Irrigation Department launched the international bidding for the upgrading of existing water conservancy facilities. Asian Development Bank provided financial support to these projects.

Sinohydro successively signed three engineering contracts for rehabilitation and upgrading of Distributory Canal System Covering Khanewal Cannal Division, rehabilitation and upgrading of PAKPATTAN Cannal, rehabilitation and upgrading of SULEIMANKI Barrage with the Punjab government. These projects started construction in 2013 and were completed in 2017 and 2018 respectively.

These projects largely increased the irrigation capacity by dozens of square kilometers, solved the drinking water problem for residents and livestock near the channel by, and made great contribution to local agricultural development.

汗华水电站 KHAN KHWAR HYDROPOWER PROJECT

巴基斯坦汗华水电站项目位于西北部开普省印度河的支流汗华河 (Khan Khwar River) 上，装机容量72MW，年平均发电量大约3亿度。

项目业主为巴基斯坦水电开发署WAPDA，中国水电建设集团国际工程有限公司与业主签订了工程合同。项目于2005年1月开工建设，2010年11月实现并网发电。

The Khan Khwar Hydropower Project is located on the Khan Khwar River, a tributary of the Indus River in Khyber Pakhtunkhwa Province. The installed capacity is 72MW and the average annual generating capacity is about 300 GWH.

The project employer is Pakistan Water and Power Development Authority (WAPDA), and Sinohydro entered into the project contract with WAPDA. The project started construction in January 2005 and was connected to the grid for power generation in November 2010.



塔贝拉水电站四期扩建项目 TARBELA 4TH EXTENSION HYDROPOWER PROJECT

巴基斯坦塔贝拉水电站是位于印度河干流上的一座综合利用水利枢纽工程，距离首都伊斯兰堡约120公里。其四期扩建项目是对现有塔贝拉水电站进行再次升级改造，新增三台470MW混流式水轮机，使现有电站装机从3478MW增大到4888MW。业主为巴基斯坦水力电力发展署(WAPDA)。

塔贝拉水电站四期扩建项目于2013年10月29日正式开工，2018年3月实现首台机组发电。项目建成发电后，极大地缓解了巴基斯坦电力供应不足的问题，创造了巨大的经济和社会效益。



The Tarbela dam is a comprehensive water conservancy project on the Indus River, 120km from the capital Islamabad. Tarbela 4th Extension Hydropower Project upgraded the existing power station by adding three German 470MW Francis turbines to increase the installed capacity from 3478MW to 4888MW. The project employer is Pakistan Water and Power Development Authority (WAPDA).

This project was officially started on October 29th, 2013. The first unit was synchronized to the grid in March 2018. Upon its completion, this project will greatly alleviate the power shortage in Pakistan to local community and bring huge economic and social benefits.



曼格拉水电站项目 MANGLA REFURBISHMENT PROJECT

巴基斯坦1000MW曼格拉水电站电气设备改造项目，旨在为提高电站运行效率和配合主机扩容。

业主为巴基斯坦水电开发署(WAPDA)，由美国国际开发署(USAID)提供贷款资金，项目地点位于巴控克什米尔地区曼格拉镇，中国电建旗下中国水电承担了辅机电气附属设备以及监控保护系统的设计、供货、修复、安装、调试和试运行等。



Mangla Refurbishment Project is designed to improve the operational efficiency of the power plant and assist the capacity expansion of the main generator.

The project employer is Pakistan Water And Power Development Authority (WAPDA). It was financed by United States Agency for International Development(USAID). The project is located in Mangla town of Kashmir Region (AJK). Sinohydro undertakes the design supply, refurbishment, installation, testing and commissioning of all electric part of auxiliary facilities.

印象巴基斯坦

A GLIMPSE OF
PAKISTAN

CLEAN
ENERGY CLEAR SKY

CLEAN 印象巴基斯坦
ENERGY CLEAR SKY
清风 ◆ 洁净天地

	拉合尔橙线轨道交通分包项目 Lahore Metro Transit System Orange Line	63
	大沃风电项目 Dawood Wind Farm	65
	萨察尔风电项目 Sachal 49.5MW Wind Farm	69
	特里肯波斯顿风电项目 Tricon Boston 150MW Wind Farm	71
	哈特福德风电项目 Hartford 50MW Wind Farm	73

4

拉合尔橙线轨道交通分包项目 LAHORE METRO TRANSIT SYSTEM ORANGE LINE



巴基斯坦拉合尔轨道交通橙线项目是巴基斯坦首座城市轨道交通项目，全长25.58公里。由于中国电建旗下中国水电在铁路建设领域出色的能力，中国电建承担了该项目部分轨道铺设和全线给排水与消防工程。

The Lahore Metro Transit System Orange Line is the first urban rail transit project in Pakistan with a total length of 25.58 kilometers. Due to the outstanding capability in the field of railway construction, POWERCHINA has undertaken part of the project's track laying work, full-line water supply and drainage and fire protection engineering.



大沃风电项目 DAWOOD WIND FARM

巴基斯坦大沃风电场装机容量为49.5MW，项目位于巴基斯坦卡拉奇以东70公里的Gahro地区，设计年发电量达1.3亿kWh。



大沃风电项目由中国电建旗下中国水电顾问集团国际工程有限公司与巴基斯坦Rafique Dawood先生共同投资建立的大沃电力有限公司（以下简称大沃公司）负责投资运营。

巴基斯坦大沃风电项目是中巴经济走廊14个优先发展的能源项目之一。2015年4月21日在中国国家主席习近平访巴期间，与时任巴基斯坦总理共同通过视频见证了大沃风电项目的开工仪式。

大沃风电项目于2015年3月30日开工建设，2017年4月4日投入商业运行。大沃风电场已安全稳定运行两年多时间，共计实现清洁能源发电量约270Gwh，缓解了当地用电紧张的局面。

The Dawood Wind Farm has an installed capacity of 49.5 MW. The project is located in Gharo, Sindh province, 70km east of Karachi city. Dawood Wind Farm is jointly invested by Hydrochina International Engineering Company Limited, a subsidiary of POWERCHINA, and Mr. Rafique Dawood.

Dawood Wind Farm is one of the 14 priority energy projects under China-Pakistan Economic Corridor. During Chinese President Xi Jinping's visit to Pakistan on 21st April, 2015, the then Prime Minister of Pakistan and President Xi witnessed the groundbreaking ceremony of Dawood Wind Project through live video.

Dawood Wind Farm started construction on 30th March, 2015 and was put into commercial operation on 4th April, 2017. This project has been operating safely and steadily for over two years, and the total amount of clean power generated by Dawood Wind Farm is beyond 270Gwh, which significantly alleviates local power shortage.



萨察尔风电项目 SACHAL 49.5MW WIND FARM

49.5MW巴基斯坦萨察尔风电项目，该项目是中巴经济走廊能源合作优先实施项目之一。该项目位于巴基斯坦信德省Jhimpir地区。

中国电建下属成员企业中国水电顾问集团国际工程有限公司为本项目EPC承包方，共安装33台单机容量1.5MW的金风风机机组。项目业主为巴基斯坦当地萨察尔能源发展公司，融资方为中国工商银行，采用出口买方信贷方式融资。

2015年4月21日，在中国国家主席习近平访巴期间，与时任巴基斯坦总理通过视频共同见证萨察尔风电项目开工仪式。

项目于2015年12月11日正式开工，于2017年4月10日实现商业运行。

2017年8月31日，时任巴基斯坦总理阿巴西与来访的时任中国国务院副总理汪洋，共同为萨察尔风电项目竣工揭牌。



The Sachal 49.5MW Wind Farm, one of the priority projects under China-Pakistan Economic Corridor(CPEC), is located in Jhimpir area, Sindh Province, Pakistan.

Hydrochina International Engineering Co.Ltd, a subsidiary of POWERCHINA, is the EPC contractor of the project. The wind farm installed 33 Goldwind wind turbines with unit capacity of 1.5MW. Pakistan Sachal Energy Development (private) Ltd., is the employer of the project and Industrial and Commercial Bank of China (ICBC) provided buyer's credit for the project.

During Chinese President Xi Jinping's visit to Pakistan on 21st April 2015, the then Prime Minister of Pakistan witnessed the ground-breaking ceremony of the project through live video.

The Sachal wind farm formally started construction on 11th December 2015 and achieved commercial operation on 10th April 2017.

On 31st August 2017, the then Prime Minister of Pakistan and the then Chinese Vice Premier Wang Yang jointly inaugurated the completion ceremony for Sachal project.

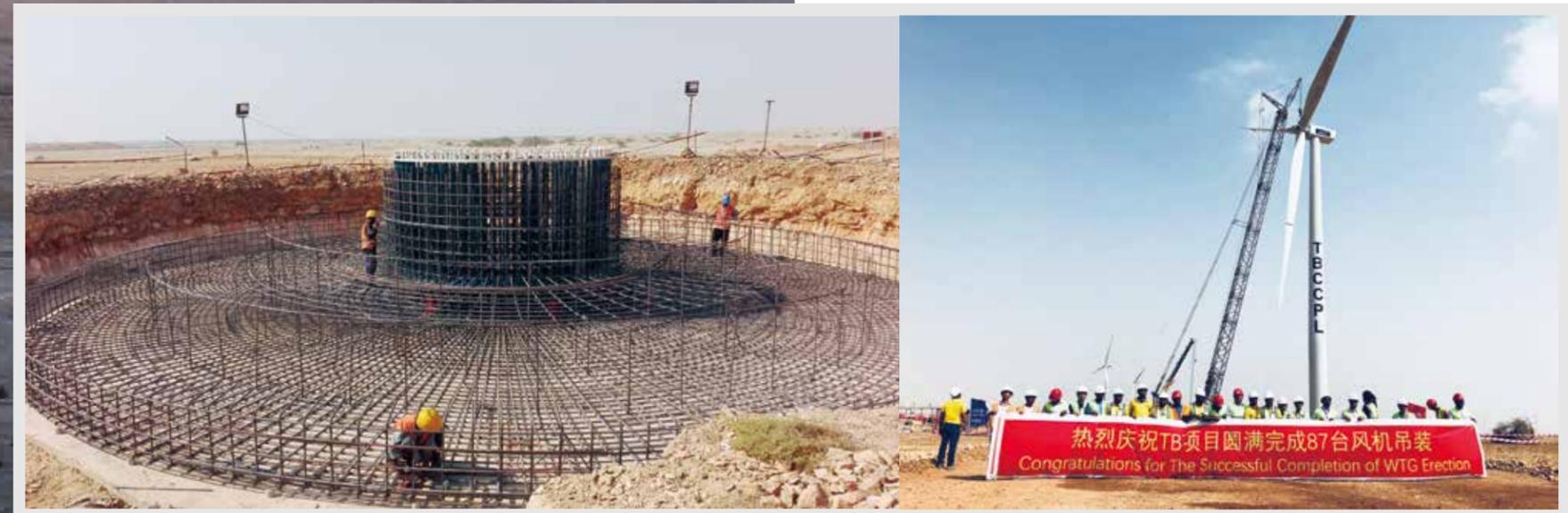
特里肯波斯顿风电项目 TRICON BOSTON 150MW WIND FARM

巴基斯坦特里肯波斯顿风电总承包项目，项目地点位于巴基斯坦信德省Jhimpir区，总装机规模150MW，采用87台美国GE1.7MW风机，是巴基斯坦目前单体容量最大的风电场，是世界银行下属国际金融公司(IFC)在巴第一个融资项目，并获得2017年亚太地区项目融资风电项目Best Deal奖。

中国水电顾问集团国际工程有限公司作为总承包商，项目于2017年8月4日正式开工，A/B/C三个站分别于2018年8月16日，2018年9月14日和2018年9月11日实现商业运行。工期累计提前71天。

TRICON BOSTON Wind Farm is located in Jhimpir area, Sindh Province, Pakistan. The total installed capacity of this project is 150MW, and 87 GE wind turbine with unit capacity of 1.7MW are installed. As the largest wind farm in Pakistan, Tricon Boston Wind Farm is the very first Pakistani project financed by International Finance Corporation (IFC, belongs to World Bank) and this project has won the award of Asia Pacific Wind Deal of the Year for IJ Global Awards 2017.

Hydrochina International Engineering Co.Ltd, a subsidiary of POWERCHINA, carried out the EPC work. The project got NTP notice to proceed on 4th August 2017 and achieved commercial operation on 16th August, 14th September and 11th September for section A, B and C respectively, totally 71 days ahead of schedule. The project achieved IFC's "Excellent" rating for HSE Performance, the first wind power project in Pakistan to get this appraisal.



哈特福德风电项目 HARTFORD 50MW WIND FARM

巴基斯坦哈特福德 (HAE) 50MW 风电总承包项目，业主为当地私人业主巴基斯坦哈特福德可再生能源公司。项目位于信德省锦屏风电走廊地区。项目总装机容量 49.3MW，共安装 29 台 GE1.7MW 风力发电机组，风机叶轮直径 103m，轮毂高度 91m，是巴基斯坦境内已建和在建项目最高纪录。

该项目由中国电建旗下中国水电顾问集团国际工程有限公司建设，2016 年 12 月 30 日开工建设，2018 年 3 月 15 日实现商业运行投产发电。

Hartford Wind Farm is located in the Jhimpir area, Sindh Province, Pakistan. The employer of the project is Hartford Alternative Energy (Private) Limited. The total installed capacity of this project is 49.3MW and 29 units of GE wind turbines with unit capacity of 1.7MW are installed. The diameter of the rotor is 103 meter and the height of hub is 91 meter, which is the highest among the completed wind power projects and those under construction in Pakistan. The project was executed by Hydrochina International Engineering Company Limited as the EPC contractor Hartford project formally started on 30th December 2016 and achieved commercial operation on 15th March 2018.



印象巴基斯坦

A GLIMPSE OF
PAKISTAN

HARMONY
FRIENDSHIP AND PROGRESS

HARMONY 印象巴基斯坦
FRIENDSHIP AND PROGRESS
和谐 友好共进

	卡西姆港燃煤电站公众开放日 Port Qasim Power Plant Public Open Day	77
	卡洛特水电站公众开放日 Karot Hydro Power Plant Public Open Day	79
	塔贝拉项目公众开放日 Tarbela Project Public Open Day	81
	中巴员工交流融合 Communication And Integration Between Chinese And Pakistani Staff	85

5

卡西姆港燃煤电站公众开放日 PORT QASIM POWER PLANT PUBLIC OPEN DAY

2019年6月26日，卡西姆发电公司组织公众开放日，邀请巴基斯坦FAST大学师生20人到卡西姆电站参观调研。

On 26th June 2019, Port Qasim Electric Power Company organized a public open day and invited 20 students and teachers from the FAST University of Pakistan to power plant for site visit and research.





卡洛特水电站公众开放日 KAROT HYDRO POWER PLANT PUBLIC OPEN DAY

2019年5月28日，中国电建参与建设的三峡卡洛特水电站项目在六一国际儿童节来临之际，举行公众开放日爱心助学活动，关注当地儿童成长，传承中巴友谊。

On 28th May 2019, right before the International Children's Day, POWERCHINA held a public open day and delivered aid to local students at the site of Karot Hydropower Station which was constructed by POWERCHINA.

塔贝拉项目公众开放日 TARBELA PROJECT PUBLIC OPEN DAY

2019年6月1日，巴基斯坦塔贝拉项目组织开展以“共筑友谊，欢度六一”主题公众开放日活动。邀请业主、监理、WAPDA学校师生代表等共计60余人到中方营地参加主题活动、参观建设中的塔贝拉四期工程。

On 1st June, Tarbela Project organized a public open day with the theme of "Building Friendship and Celebrating Children's Day". More than 60 people including the owners, supervisors, and teachers and students of the WAPDA School were invited to participate in the activities at the Chinese camp and visit the construction site of Tarbela 4th Hydropower Project.





中巴员工交流融合 COMMUNICATION AND INTEGRATION BETWEEN CHINESE AND PAKISTANI STAFF



