Going Green · Investing Green





Collective Green Actions 2016 for a Blue Sky

Contents

- 04 About the Report
- 05 Our Greetings
- 06 About CECEP
- 12 CSR Fulfillment
- 20 Responsibility in Actions
- 74 CSR Performance
- 76 Outlook 2017
- 77 Support for SDGs
- 78 Reporting Index
- 80 Rating Report
- 82 Feedback



- 28 Resource Conservation for Efficient Utilization
- 30 Environmental Protection for Blue Sky and Clean Water
- 33 Recycling for Sustainable Development
- 34 Clean Energy for Ecological World



- 38 Innovative Services for Quality Development
- 40 Green Operation for Lowcarbon Development
- 42 Management Improvement for Efficient Development
- 44 Innovation-driven Transformation and Development





- 48 Meticulous Safety Management
- 50 Systematic Emergency Response System
- 52 Safety Culture in Mind and Action



- 56 Strategic Cooperation for Common Development
- 58 Responsible Procurement for Shared Value
- 59 Industrial Exchanges for Common Progress



- 62 Enhanced Protection of Employees' Rights and Interests
- 63 Better Development of Employees
- 67 Employee Care for Better Career Development



- 70 Assisting Xinjiang and Tibet's Development for Shared Harmony
- 71 Advocating Environmental Protection for Low-carbon Life
- 72 Voluntary Service for Better Life

Collective Green Actions for a Blue Sky

About the Report

Reporting Period

The Report covers our activities from January 1, 2016 to December 31, 2016, and the data of previous years is available.

Reporting Cycle

CSR reports of CECEP are annually released, and the Report is the 7th annual CSR report of CECEP.

Reporting Coverage

The Report covers the China Energy Conservation and Environmental Protection Group, including all subsidiaries.

Data Sources

All data in the Report is mainly based on the Group's calculation and analysis of related data. The operating data mainly come from the audited *2016 Report on CECEP's Financial Accounts, 2016 Annual Report of CECEP*, etc. The industrial statistics mainly derive from the National Bureau of Statistics, the Ministry of Housing and Urban-Rural Development, the Ministry of Environmental Protection (MOE) of the People's Republic of China, SolarPower Europe (the new EPIA), and other organizations.

Report References

Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities (GZFYJ [2008], No.1) issued by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC); *Guidance on Social Responsibility Reporting (GB/T 36001-2015)*;

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR3.0) by Chinese Academy of Social Sciences (CASS):

Social Responsibility Evaluation Indicator System of China's Industrial Enterprises (Trial) issued by China Federation of Industrial Economics (CFIE);

G4 Sustainability Reporting Guidelines by the Global Reporting Initiative (GRI);

ISO 26000: 2010 Guidance on Social Responsibility; etc.

Report Versions

The Report is available in both Chinese and English, including printed and PDF versions. For PDF version, please visit the Group's official website (www.cecep.cn); for printed version, please contact us: (86) 010-62248552.

Appellations

In the Report, China Energy Conservation and Environmental Protection Group is also referred to as CECEP, the Group, and "we".

Reporting Procedures



Declaration

The 2016 CECEP CSR Report lays emphasis on process management and discloses CSR fulfillment willingness, actions, performance and commitment of CECEP according to the findings of CSR material issues investigation. We hereby undertake that the information in the Report is reliable, authentic and timely. Through releasing the Report, we hope to enhance communication with stakeholders and unite them to promote the green cause of energy conservation and sustainability.



Our Greetings

With spring almost over, we extend arms to early summer, which carries occasional coldness in the hot air. A season of greenness and vitality is awaiting us all. In retrospect, 2016 was an extraordinary year for CECEP. Despite hardships and obstacles along the way, CECEP achieved sustained development and satisfactory achievements in which the committed CECEP people made unremitting efforts and took pride in it. In 2016, we united and made concerted efforts, persisted in our original belief, and with practical actions witnessed the charm of the Chinese dream. Through the year, we made further progress in realizing the great rejuvenation of the Chinese nation, had so many stories to share with, and achieved the new CSR performance to present before you.

2016

2016 is an extraordinary year. In 2016, the first year of the 13th Five-year Plan period, the supply-side structural reform was continuously implemented in China. In the international arena, the Paris Agreement on climate change was put into effect and the UN 2030 Agenda for Sustainable Development was implemented across the world. Under the leadership of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), we implemented the requirement of "taking the supply-side structural reform as the mainline", enhanced corporate governance according to laws, and undertook further efforts in the reform, major businesses, innovation, risk management and control, and quality and efficiency. Moreover, we realized maintenance and increment of state-owned assets, with an increase of 9.07% in assets value and an increase of 4.08% in operating revenue.

2016

2016 is a year of innovation. We practiced the five development concepts and promoted ecological progress. We substantially enhanced innovation in science and technology, management innovation and business models, provided "one-stop" services to deliver all-dimensional comprehensive solutions to energy conservation and environmental protection, promoted green development, circular development and low-carbon development, and formed the business layout, industrial structure and business mode advocating resource conservation and environmental protection. Throughout the year, we generated 9.825 billion kWh of "green power", which equals to reduction of 7.716 million tons of carbon emission or saving of 3.095 million tons of standard coals equivalent; we disposed of 8.684 million tons of solid waste, treated over 1.43 billion tons of waste water, and reduced 146,000 tons of COD emission.

2016

2016 is a year of shared harmony. With confidence and persistence, we strive forwards to proactively facilitate the building of a harmonious society. We seized opportunities brought by the Belt and Road, accelerated the pace of "going global", improved the quality of "going global", and injected "green" power into locations in which we have businesses, ranging from charity and relief, to environmental protection, and further to industrial and employment support. We made progress in poverty alleviation with a focus on targeted poverty alleviation projects, and donated money and material supplies worth over RMB 42.12 million. We joined hands with all parties to build a moderately prosperous nation for realizing the Chinese Dream of the great rejuvenation of the Chinese nation.

2017

2017 will be a year of vitality and progress. With a good vision of "becoming a global leader in energy conservation and environmental protection industry, and making for a clearer sky, greener land, cleaner water and happier life", we will consolidate our confidence and strive to respond to "the defense of a blue sky" with actions. We will take the initiative to integrate corporate development into the national development scheme, adhere to the ideal of "Going Green • Investing Green", and commit ourselves to serving economic construction and social development; we will enhance our efforts in energy conservation and environmental protection, meet people's expectations and appeals with corporate development achievement, and fulfill political, economic, social and environmental responsibilities as a central state-owned enterprise, awaiting for the 19th National Congress of the CPC with great achievements.





About CECEP

CECEP is the only central state-owned enterprise that takes energy conservation and environmental protection as its major business. We have 543 subsidiaries and 27 of them are wholly-owned and second-tier ones, among which six are listed companies. Our major businesses cover provinces and cities in China and more than 40 countries and regions overseas.

In recent years, CECEP has successfully transformed from a national policy investment company into a specialized conglomerate. We take energy conservation, environmental protection, clean energy and resource recycling as our major businesses, and have established a "4 + 1" business layout strongly supported by our comprehensive service of energy conservation and environmental protection. CECEP has become a technology-

CECEP Figures

Increasing Operating Revenue by

Y COO % Year on Year

The figure highlights the Group's efforts to improve quality and efficiency, speed up the development of major businesses, and become a stronger and better CECEP.

I'm Liang Gang, an employee from China National Environmental Protection Group. During these years, we have continuously practiced the ideal of "low carbon and environmental protection for a green China". Since incorporation, we have focused on the energy conservation and environmental protection industry. We are very proud that under the leadership of CECEP, China National Environmental Protection Group was honored as one of the 2016 Top 10 Influential Solid Waste Treatment Enterprise in China, and has become the leader with the strongest strength in solid waste treatment field in China.

Generating 9.825 Billion kWh of "Green Power"

The figure shows the Group's emphasis on the building of ecological civilization and the development of comprehensive solutions to energy conservation and environmental protection as well as achievements of the service mode of "stewards of energy conservation and environmental protection".

I'm Qian Wentao, an employee in power station operation and maintenance from CECEP (Shanghai) Solar Energy Generation Co., Ltd. In the big CECEP home, tens of thousands of employees dedicate their wisdom and hard work to each production line, each position, each region and each sector for the common ideal of a splendid future. It is their selfless contribution that makes for "a clearer sky, greener land, cleaner water and happier life".

Investing RMB

Mill Wor Saf

Million in Work Safety

Behind the figure is the Group's action of safety management enhancement, emergency response ability improvement, safety culture building, and safety energy conservation.

I'm Ma Wenqiang, from the Work Safety Administration Department of the Group. I was honored to participate in the formulation and amendment of several systems including the Regulations on Work Safety Training Management of CECEP . With our efforts, the Group's work safety system guarantee has been enhanced. Moreover, we carried out the campaign of work safety risks identification, urged subsidiaries for inspection of hidden hazards, and monitor their conducts of hazards rectification. We also organized trainings of safety production to improve employees' work safety awareness and capability.

6

and service-oriented conglomerate with the strongest comprehensive capability and the largest scale in the field of energy conservation and environmental protection in China. In this field, we are the leading enterprise with a huge influence.

In terms of either scale or strength, we are taking the lead in industrial energy conservation, construction energy conservation, solid waste treatment, exhaust gas and heavy metal pollution treatment, soil remediation, water treatment, PV power generation, wind power generation, energy-saving and environment-friendly new materials, etc.







In order to build a beautiful China with "green mountains, clear water and fresh air", CECEP has shouldered its sacred mission of green development, circular development and low-carbon development. CECEP has protected our beautiful homeland all the time and continuously contributed clean power for a green life.



We Conserve Energy for You

Collective Green Actions for a Blue Sky

Joining hands with all parties to make collective efforts Anticipating the rejuvenation of the green cause

Undertaking unremitting efforts to boost innovation

Beautifying new cities with clear water and green mountains

Sharing growth and prosperity to build the base of responsibility

Enjoying low carbon to create harmony with all parties

Blue sky and white clouds chanting the charm of nature

Unblocking the source of value through harmony between people and nature



We Protect Our Beautiful Homeland

Energy Inservati

> Water Treatmen









Strategy and Governance

Since the incorporation of CECEP, we have always focused on the field of energy conservation and environmental protection, and committed to resource recycling and clean energy exploration and exploitation. We have proactively built a world-class service- and technology-oriented conglomerate in this field.



Opportunities

Challenges • The economic downturn will continue.

- Under the new normal of economy, China promotes a series of supply-side and demand-side structural reforms
- China substantially promotes ecological progress and the Belt and Road
- China has released a series of policy documents such as the Development Planning of Energy Conservation and Environmental Protection Industry During the 13th Five-year Plan Period to accelerate the development of energy conservation and environmental protection industry: introduced the new environment law, which is the strictest compared to previous ones; encouraged third-party companies to involve in pollutant treatment; issued the ecological civilization reconstructing plan and developed green finance; etc.
- The transaction markets for energy consumption right, carbon emission right, sewage discharge right, and water right have been built. The market vitality of energy conservation and environmental protection industry has been further aroused
- A diversified finance layout has been formulated gradually, with capital promoting industrial development

Interpretation and Implementation



- energy and basic raw materials are in low level, posing challenges to industries including clean energy, energy conservation and resource recycling
- With low centralization, the energy conservation and environmental protection industry is facing increasingly intense cutthroat competition

Support and Implementation

CECEP's Development Strategy

CECEP's goal by 2025: CECEP aims to serve as the backbone of national ecological civilization building by developing a global leading technology and service/product portfolio in key areas of energy conservation and environmental protection, so that the Group can gain a strong capability of global resource allocation, and become a multinational enterprise group of great influence

Governance Structure

CECEP complies with laws and regulations such as the Company Law, and regularly and timely discloses operation and management information to investors to protect investors' right to know and supervise. According to the SASAC, we should build and improve the corporate governance mechanism, improve the operation mechanism of the Board of Directors, and form a corporate governance mechanism featuring top-down coordination and effective communication.

Improved the institutional system. CECEP compiled systems such as the *Regulations on Dispatched* Directors and Supervisors of Listed Companies of CECEP and the Guidance on Management of Market Shares of Listed Companies of CECEP, reviewed and approved nine basic systems such as the *Regulations* on Authority Management of the Board of Directors, and promoted the standard operation of the Board.

Optimized the organizational system. CECEP set up the office of the Board of Directors as the permanent establishment of the Board of Directors. The Office is in charge of routine work of the Board, and provides



Legal Compliance CECEP strictly complies with laws and regulations, and urges employees to obey relevant international laws and regulations and those in places where our businesses are operated to ensure lawful corporate operations. In 2016, both the compliance rate of the Group's regulations, systems and contracts and the legal review rate of major operating decisions reached 100%. A total of 100 employees participated in training sessions on legal compliance in 2016.

Implemented internal control audit to prevent and managing cadres and talents, and enhanced the control risks. CECEP deepened the internal control building of the leader team and the talent team. CECEP audit appraisal and comprehensively promoted established a long-term inspection and rectification rectification of and reflection on internal control mechanism to strengthen inspection and rectification. defects. CECEP enhanced internal inspections to Moreover, CECEP urged Party branches of subsidiaries regulate operation management, conducted targeted of all levels to formulate and implement the detailed special audits of final accounts of completed projects, rules and regulations on Two Responsibilities and other receivables, and economic responsibility and enhanced supervision and inspection accordingly. financial accounting during the corresponding term. Besides, CECEP promoted education and clean CECEP compiled the Internal Control Manual 2016, governance, issued the Regulations on Connection which covers 146 management and control processes Discipline and Law Violation Processing with in 22 business sectors. Operating Performance Appraisal and Remuneration Advocated anti-corruption and clean governance. Management, carried out discipline reviews and Adhering to the leadership of the Party, CECEP inspections, and strictly investigated into and severely established and improved the Party building punished discipline and law violations, creating a clean and fair development atmosphere.

accountability system, observed the principle of Party

comprehensive support and guarantee for the directors and the Board to fulfill their responsibilities.

Promoted the pilot scheme of the Board of Directors authority. CECEP implemented the pilot scheme of the Board of Directors authority and stably promoted the strategic planning for mid- and long-term development, recruitment, performance appraisal, and remuneration management of senior management personnel. CECEP also implemented the reform of six authorities in management of total staff remuneration registration and major financial matters.







CSR Fulfillment

CECEP focuses on the three mainlines of economy, environment and society, and fulfills its essential responsibilities of profitability and efficiency, inborn industrial responsibilities of energy conservation and environmental protection, and consistent original responsibilities of harmony coexistence. CECEP is committed to assuring investors, satisfying customers, sharing common benefits with stakeholders, earning a reputation in the society, promoting employees' welfare, and making the earth and people's life better, in order to build a world-class S&T service group of energy conservation and environmental protection.

CSR Model

CECEP keeps firmly in mind the mission of "protecting the environment, conserving resources, and creating a beautiful ecological environment with white clouds, green mountains and clear waters for our people". CECEP deepens the connotation of Going Green · Investing Green, identifies the responsibility fulfillment route, and implements six fundamental responsibilities including energy conservation and environmental protection, and economic development. CECEP gives play to the five functions of social responsibility such as maintaining corporate survival and promoting harmony, and has built a model of "Butterfly with One Body and Two Wings" to guide the social responsibility work.



CSR Philosophy

Based on sustainable development, CECEP takes Going Green · Investing Green as its CSR concept, regards value creation as the core, and pursues comprehensive values of economy, society and environment, striving to realize the CSR vision of "launching green campaigns, making ecological progress, and serving employees and the public".

CSR Promotion

CECEP further improves the social responsibility management system and promotes the integration of the concept of social responsibility into the Group's strategic development, corporate governance and business operation. CECEP improves the social responsibility organization and governance mechanism, the social responsibility planning, and the social responsibility report and index system. Consequently, CECEP has maintained a leading position in CSR fulfillment ratings by social responsibility rating authorities.



CSR Governance

CECEP established a leading group on social responsibility work, which is led by the chairman of CECEP. CECEP enhances the building of social responsibility organizations, identifies the boundaries between authorities and responsibilities, and realizes top-down coordination and effective communication.









CSR Planning

CECEP observes SASAC's requirements of promoting social responsibility management, practice and communication in central SOEs. Based on actual situations, CECEP timely adjusts its planning and promotes the comprehensive integration between social responsibility and other work.





CSR Integration

CECEP integrates social responsibility into corporate development strategy, routine operation management, supply chain management and internationalized operation to promote the transformation of social responsibility into the endogenous power of corporate development. CECEP encourages subsidiaries to innovate social responsibility management, carry out special practices of social responsibility practices, and build a social responsibility brand in order to achieve improvement of the Group's social responsibility level. On January 18, 2017, CECEP won the honor of Five-star Enterprises for Fulfillment of Corporate Social Responsibility in China's Industrial Sector by China Federation of Industrial Economics for the third consecutive year.



New Era Health Industry (Group) Co., Ltd. Promotes Social Responsibility in Full Swing

New Era Health Industry (Group) Co., Ltd. promotes social responsibility work in aspects such as the integration of CSR concept, the building of CSR organization system, and the guidance on CSR practice to enhance employees' cohesion and improve its corporate governance.

Enhance the integration of CSR concept. New Era Health Industry (Group) Co., Ltd. compiled *Corporate Social Responsibility Manual* and distributed it among staff to promote the integration of CSR concept. *Corporate Social Responsibility Manual* was honored as an Outstanding Result of Enterprise Culture Building during the 13th Five-year Plan Period by China Enterprise Culture Improvement Association.

Enhance the building of CSR organization system. New Era Health Industry (Group) Co., Ltd. has built up the top-down CSR organization system and identified subsidiaries' social responsibilities. Moreover, New Era Health Industry (Group) Co., Ltd. has determined CSR fulfillment scope to include more CSR fulfillment issues, and improve the CSR index system and appraisal system.

Stress the improvement of benchmarking. New Era Health Industry (Group) Co., Ltd. continuously carries out CSR benchmarking against advanced enterprises in the industry. It keeps track of all news of CSR work of advanced enterprises, absorbs advanced management experience of industrial counterparts, and takes the Group's CSR index system as the clue to sort out CSR fulfillment information of advanced enterprises from two dimensions of CSR management and CSR practice.

CSR Communication CECEP continuously enhances communication with stakeholders. Through ways of compiling and releasing high-quality social responsibility reports, and organizing CSR communication, etc., CECEP timely discloses important corporate information, responds to public concerns, creates opportunities to engage stakeholders in corporate operation management, and improves operation transparency.





Information Disclosure

Through questionnaires, surveys, expert consultation, etc., we gain a full understanding of stakeholders' expectations and appeals. Moreover, we exhibit different degrees of attention from major stakeholders to different issues in released social responsibility reports.





Communication and Engagement

Starting from major businesses, CECEP takes into account the actual situation of corporate operation management, identifies stakeholders' expectations and

Principles of Screening Stakeholders

appeals, and chooses the best communication tools and approaches to realize efficient communication with stakeholders.



Stakeholders' Interpretations of CECEP CSR Report 2015

The Report provides a systematic and comprehensive description of CECEP's concepts, actions and performance in energy conservation and ecological protection industry, innovative development, partnership enhancement, protection of employees' rights and interests, and social development promotion.

Cheng Duosheng the Director of Enterprise Innovation Department, China Enterprise Confederation

"

The Report discloses CSR fulfillment practice in accordance with the requirements of international social responsibility standard guidelines, which serves as a CSR report with distinctive characteristics and a full range of CSR information. Being professional, standard and complete, the Report discloses authentic and standardized corporate information naturally, making it an outstanding CSR report with solid content and genuine communication.

Wang Xiaoguang the President of Beijing Rongzhi Corporate Social Responsibility Institute

Yu Zhihong the President of *China WTO Tribune*

"



(17)



Financial Institutions

Scope

China Construction Bank, China Development Bank, Export-Import Bank of China, Industrial and Commercial Bank of China, Bank of Communications, China Guangfa Bank, nonbank financial institutions, and international financial institutions

Expectation

Steady operation In-time loan repayment Business reputation Risk management and control

Responses

Deepening strategic cooperation with banks

Table of Stakeholder Communication

Investors

Suppliers Service providers Distributors

Expectations

Partners

Scope

Keeping promise Business integrity Openness and fairness Mutual benefit and winwin result

Responses

Jointly building an industry association Deepening strategic cooperation with domestic and foreign companies

and foreign companies Supplier review



Scope

SASAC, shareholders of subsidiaries at all levels of CECEP (except CECEP)

Expectations

Standardized operation Scientific management Controllable risks Value maintenance and appreciation

Gains on investments

Responses

Anti-corruption Supporting inspections Improving governance mechanisms

Reducing costs and increasing efficiency to strengthen profitability

Government Agencies

Scope

NDRC, SASAC, MEP, MIIT, MOFCOM, MOHURD, MOH, MOF, SAT, Work Safety, local governments, and related national and regional agencies

Expectations

Observation of laws and disciplines Value maintenance and appreciation Environmental protection Job creation Technological innovation Work safety

Responses

Scope

All employees

Expectations

interests

Responses

Staff congress

Remuneration and benefits

Carrying out "studies on the

Internal publications and OA

theoretical and practical

issues of Party building'

WeChat official account

Career development

Health and safety

Protection of rights and

Accepting supervision and examination Enhancing cooperation in the environmental protection industry



Domestic and overseas customers and consumers of CECEP products and services

Expectations

Scope

Quality assurance In-time service Health and environmental protection

Responses

Responsible marketing Protecting information security and privacy of customers

All kinds of publicwelfare and industrial associations and community organizations

Expectations

Scope

Supporting involvement Abiding by rules Performing duties Common development

Responses

Taking part in charity activities and environmental protection activities held by NGOs Compiling national and industrial standards

Participating in industrial communication

Social Organizations

Scope

Communities where CECEP headquarters and all subsidiaries are located; regions where CECEP operates and assists in poverty-relief efforts

Expectations

Environmental protection Harmonious community Work safety Poverty relief Employment stability

Responses

Community surveys Daily communication with communities Community activities for the public good

Communities and the Public

Employees



Users and Customers

CSR Sharing

CECEP actively promotes CSR sharing and communication and facilitates the development of CSR fulfillment in the industry. CECEP boosts the scientific CSR performance management. Based on CECEP's operation management characteristics, CECEP compiled the *Comprehensive Index System of Social Responsibility*, which fills the gap in the industry. CECEP

participated in the formulation of the guideline on social responsibility report compilation in energy conservation and environmental protection industry and strives to play an exemplary role in energy conservation and environmental protection industry and even the central SOEs system.

Responsibilities Passing on - CSR Sharing in China (2016) - Energy Conservation Campaign

On July 21, 2016, CECEP cooperated with Research Center for Corporate Social Responsibility Chinese Academy of Social Sciences to organize the CSR Sharing in China (2016) – Energy Conservation Campaign. The research team of over 30 delegates visited CECEP (Gansu) Wind-power Corporation Co., Ltd. They gained a full understanding of the operating principle of wind turbines at Changma Wind Farm, visited Culture Wall, CSR Wall, Central Control Room, employees' dormitory and the sand tray of wind farms in Yumen region, and attended the CSR campaign flag-planting ceremony and symposiums. The campaign showed the Group's responsibility with actions, shared CECEP's experience in CSR fulfillment and communication.

"

CECEP communicates with stakeholders, roots social responsibility in employees' mind and integrates corporate social responsibility into every element, **Going Green** · **Investing Green**. CECEP takes actions to practice corporate responsibilities in production and operation, safety and environmental protection, harmonious construction, etc., setting up a model of sustainable development in energy conservation and environmental protection industry.

The research team of CSR Sharing in China (2016) - Energy Conservation Campaign Zhong Hongwu the Director of Research Center for Corporate Social Responsibility Chinese Academy of Social Sciences, Secretary of China CSR 100 Forum



CSR Honors

The report of With the CECEP CSR Report 2015 CECEP (Gansu) Wind-According to the Corporate Guidance of Core Values. was rated a Five-star power Corporation Social Responsibility Blue Build Core Corporate social responsibility Co., Ltd. won the Paner (2016) of the Research Competence of New Age report by the China CSR honor of Corporate Center for Corporate Social Health Industry (Group) Report Rating Expert Social Responsibility Responsibility Chinese Co., Ltd. was included Panel of Research Demonstration Base Academy of Social Sciences, CECEP ranked 24th in Social in the Collection of Center for Corporate by Research Center Experience in Socialist Social Responsibility for Corporate Social Responsibility Development Core Values Building Responsibility Chinese Index of Top 300 Enterprises Chinese Academy of in China, and 17th in Social in Central SOEs by the Academy of Social Social Sciences. Responsibility Development SASAC Sciences. Index of Top 300 SOEs. 2016



Responsibility in Actions

Sowing the Seed of Hope by Targeted Poverty Alleviation

In Songxian County and Fuchuan County, CECEP's spirit of poverty alleviation has been seeded and transformed into a silent yet strong power to nurture the development of villages.

Keeping the Mainline of Poverty Alleviation in Mind

In order to promote targeted poverty alleviation, CECEP sticks to the direct leadership of the Group's senior management and determines the mainline of poverty alleviation. In particular, CECEP proactively promotes the integration of major business edges with resources of the targeted poverty alleviation counties, and undertakes poverty alleviation through ecological, industrial, scientific and technological, and educational support in order to practically help solve the biggest concerns and the most direct and pressing issues of local communities.



Making Use of Every Penny in Poverty Alleviation

Invested RMB

1.104 million allocated to Fuchuan County, Guangxi Province Invested RMB 2.5337 million allocated to Songxian County, Henan Province

nillion

We formulated the *Regulations on CECEP's Poverty Alleviation Fund*, striving to make use of every penny in poverty alleviation. In 2016, CECEP invested RMB 3.641 million in poverty alleviation, among which RMB 1.104 million was allocated to Fuchuan County, Guangxi Province and RMB 2.537 million to Songxian County, Henan Province.



CECEP annually invested RMB one million as poverty alleviation fund to aid one village and help build the water supply project, sewage discharge project and road hardening and lightening project in the village. Moreover, charity kindergartens CECEP primary schools and cultural recreational playground were also built to ensure that the village is basically lifted out of poverty. In the second year, CECEP continues to track the effect of poverty alleviation and meanwhile invest capital in the next impoverished village as poverty alleviation fund. CECEP promotes poverty alleviation village by village



- CECEP used part of poverty alleviation fund to purchase solar and PV LED road lamps, organized technicians to provide guidance, and installed LED road lamps in dark mountainous roads in Songxian County
- The major poverty alleviation project the med Caring for Fuchuan & Lightening Gepo was completed in Gepo Town, Guangxi Fuchuan Yao Autonomous County



In May and June every year, CECEP organizes reinstallation of computer systems in replaced computers and donates them to village schools, cooperation societies, and village and county governmental institutions, etc. according to actual needs of Songxian County and Fuchuan County. In order to ensure that the donated computers run smoothly and are fully used, CECEP regularly organizes visits to investigate the computer utilization status, resolve problems and ensure targeted donations



in poverty alleviation



Sustainable Industrial Support for Poverty Alleviation

We broaden our thinking, adopt targeted measures, and actively build industrial support projects for poverty alleviation. Moreover, we explore the poverty elimination route with local characteristics by economic development and facilitate the formulation of improved upstream, midstream, and downstream industrial chain planning.







Responsibility in Actions

Caring for Students' Dream of Going to College



CECEP Held the Symposium for College Student of Songxian County, Henan Province in Beijing on the Charity Education Project Themed Go to College & Realize Your Dream

Chen Qiujuan is one of the 100 students who received financial aid by CECEP in 2016. With CECEP's aid, Cheng Qiujuan was successfully admitted into Northwest University for Nationalities as a student of English Major. She said, "After a deep research, I know that CECEP has aided many students in Songxian County these years. And I am deeply touched by the solicitude and positive power that CECEP is passing on. Though alone in a distant and strange environment, I feel quite warm while thinking of that CECEP is standing by me. I will never let you down and keep studying hard."

Upon the receipt of Cheng Qiujuan's letter, the Group's Chairman and Secretary of the Party Committee Liu Dashan and General Manager Wang Tongzhou wrote back to encourage her to pursue growth and development and repay the society. CECEP made selfless and conductive attempts of transforming 'blood-generating poverty alleviation to hematopoiesis poverty alleviation' to enable students of Songxian County to go to college for higher education. It is CECEP's considerable financial aid that brings new hope and positive power to children here.

"

Cheng Menglin, Cheng Qiujuan's father

CECEP enables college students in Beijing who are from Songxian County to feel such warmth as what they feel at home, which encourages and touches Songxian County students aided by CECEP as well as their classmates, teachers and 600,000 people in Songxian County. They gain unlimited power from CECEP's charity move.

> Xu Xin, the Secretary of Songxian County Committee, Henan Province

In Songxian County, Henan Province, a total of 50 percent of village students go to college with debts, and the most pressing problem is that after they pay college fees for college education, they become poorer or are dragged into poverty again. We carry out normalized charity education activities themed Go to College & Realize Your Dream and annually donate RMB 500,000 to aid 100 college students from impoverished households in Songxian County (RMB 5,000 for each) for their college admission fees. Since 2014, CECEP has aided 300 students and blocked the generation transmission of poverty in Songxian County.

In 2014, CECEP conducted the charity education donation activity themed Lighten the Hope & Support Healthy Growth in Fuchuan County, Guangxi Province. Through the activity, CECEP donated RMB 150,000 to aid 100 impoverished college students and 50 impoverished primary and middle school students.



CECEP Held the Charity Education Donation Ceremony Themed Go to College & Realize Your Dream

Promoting Poverty Elimination with Sincerity

Through open recruitment and recommendation, CECEP appointed two officials as vice governors and one as the first village committee secretary to the two targeted poverty alleviation counties - Songxian County, Henan Province and Fuchuan County, Guangxi Province.

After taking office, Lu Di, the first Secretary of the Party branch of Shichang Village of Songxian County, built an 800m road in Shichang Village, helping local people resolve the problem of poor traffic; built a 2km road in the Stone Club scenic spot, ensuring the successful completion of the juncture monument of three counties; restored the drinking water wells and relieved local people of hard work of walking on mountain roads to carry water on a shoulder pole; wholeheartedly treated impoverished people as his family, took local children to cities to broaden their visions, and collected native eggs from local households to sell to big cities at a price of three times of local price.



A Broader Poverty Alleviation Route

In the future, we will continue to conscientiously implement the guideline and requirement of the Central Government on poverty alleviation, give play to the craftsmanship featuring exquisiteness and fineness, adhere the working principle of keep moving, and strive to transform from "very targeted" to "more targeted" in poverty alleviation. We will continue to enhance poverty alleviation, and help lift local people out of poverty in "blood generating" ways, making more contributions to poverty elimination and prosperity.





Responsibility in Actions

Mutual Assistance and Shared Harmony

CECEP actively participates in the construction of the Belt and Road and applies advanced technologies and experience of energy conservation and environmental protection to over 1,000 overseas urban and rural

Taking the initiative to shoulder the responsibility of aid

Restored the worst hit **7km** section of the road



In 2016, there was a large rainfall during the rainy season in Guinea. The road from Takagawara to Termini was broken in several sections and became quite muddy. At that time, local traffic conditions were so terrible that brought great inconvenience to local government administration and local people's life. China Geo-Engineering Corporation Guinea-Mali Branch sent engineers for field researches and dispatched construction equipment and vehicles which carried necessary road maintenance materials to repair the road free of charge. With joint efforts of Chinese employees and local workers, the 7km section, which was the worst hit part of the road, was restored, returning local people's life to normal. After the road maintenance, the governor of Takagawara and relevant local officials came to the project base to express their gratitude.



Before and After Maintenance of the Takagawara-Termini Road

Protecting the Environment and Promoting Charity

During the construction of the Abidjan Supply Phase 2 Pipeline Project, an impact was inevitably exerted on local environment due to many construction sites and long construction span. China Geo-Engineering Corporation Cote D'Ivoire Branch always put responsibility first and tried to reduce the adverse impact of the construction on local environment. There is an orphanage at the location of the project, where the pipeline passes through. In order to prevent soil erosion and collapse of the orphanage walls caused by the rainfall, Cote D'Ivoire Branch built a concrete road and a drainage ditch, and planted turf outside the orphanage walls.



The Concrete Road Voluntarily Built by China Geo-Engineering Corporation Cote D'Ivoire Branch



projects, including infrastructure projects, large water conservancy and hydropower projects, highways, and agricultural projects. During project construction, CECEP strives to meet local needs and maximally adapt to local development situation and humanistic nature environment, ushering in a new chapter of Going Global.

Making Joint Efforts in Disaster Relief

On December 24, 2016, the Super Typhoon Nock-ten hit Philippines. The main disaster-stricken area was located at the site of the Naga Project of China Geoengineering Corporation Philippines Branch. After the disaster, Philippines Branch instantly stopped construction, dispatched machinery equipment and coordinated local government to clean collapsing trees, restore traffic and timely unblock emergency channels. Meanwhile, Philippines Branch actively called upon employees to donate money and supplies, and offered consolation money and home leave to Philippines employees from the disasterstricken area.



China Geo-Engineering Corporation Philippines Branch Dispatched Machinery Equipment to Help Clean Collapsing Trees and Restore Traffic

Making Joint Efforts for Local Development and Mutual Benefits

CECEP is committed to building a partnership with overseas partners to share risks and realize winwin situation. China Geo-Engineering Corporation Southern Africa Branch conducted localized development projects among local suppliers in Zambia to reduce transportation time and distance, energy consumption during transportation, and cost of materials, realizing a win-win situation between social benefits and economic benefits. During the construction of the Chingola-Solwezi Lot 3 Project in Zambia, Southern Africa Branch provided job opportunities for over 400 local people, organized professional technical training sessions, and created opportunities of employment and higher payment for them.



Donating Money to Support Education and Community Building





Zhang Wenjun, the General Manager of China Geo-Engineering Corporation Middle East Branch, Received an Award by the President of the Royal Committee

In order to support the development of local education and improve local people's life, China Geo-Engineering Corporation Middle East Branch accumulatively donated SAR 780,000 to Saudi Arabia Riyad Latfal School, the Sports and Culture Commission, and local residential communities, which equaled to USD 208,000. The donations were used to purchase new teaching facilities, renovate and expand school infrastructure facilities, and promote local people's livelihood. On June 30, 2016, the commencement ceremony of new residential communities and the return banquet of the Royal Committee for enterprises supporting charity were held in Saudi Arabia. The Royal Committee spoke highly of CECEP's contributions to charity.







Protecting Resources for Sustainability

CECEP Composed the First Climate-aligned Bond Index of the World

As green finance has been included in G20 Summit's agenda, China took the chance and spoke up on the international stage over the issue. In September 2016, with the strong support of the Green Finance Committee (GFC) of China Society of Finance and Banking and as a joint initiative of China Central Depository & Clearing Co., ltd., CECEP Consulting and the Climate Bonds Initiative, ChinaBond-China Climate-aligned Bond Index is the first of its kind around the world. The index provides domestic and foreign investors with a series of indicators that reflect the overall price changes in the climatealigned bond market, performance benchmarks and product targets for climate-related investment. The





index improves the transparency of climate-aligned bond market, and fills the gaps in the performance tracking of climate-aligned bonds in the market. It plays a key role in promoting the development of green economy and building a resource-saving and environment-friendly society.



Protecting Resources for Sustainability





Produced 9.825 billion kWh of "green power"





Industrial Energy Conservation

Resource Conservation for Efficient Utilization

Adhering to the green development concept of "moving toward the new era of ecological civilization and building a beautiful China" is the only way to achieve China's economic transformation and upgrade. Based on the government's policy of comprehensively promoting energy consumption and energy revolution, CECEP effectively promotes industrial transformation and upgrade, and improves quality and efficiency with its leading comprehensive service capability and technological advantage. In 2016, the installed capacity of Company's green power generators achieved a year-on-year increase of 2.083 million kilowatts, produced 9.825 billion kWh of "green power", which reduced CO₂ emission by 7.716 million tons and saved 3.095 million tons of standard coal equivalent.

2016 witnessed the beginning of the development of green bonds in China. CECEP successfully issued green corporate bonds of state-owned enterprises for the first time, which accounted for RMB 5 billion. With the lowest interest rate during the corresponding period, the bond became a model product and benchmark in domestic green bond market. Funds raised through the bonds, once put into use, can help save 280,865 tons of standard coal equivalent, substitute renewable energy sources for fossil fuels equal to 162,300 tons of standard coal equivalent, and reduce 1,154,459 tons of CO₂ emission, 3,566 tons of SO₂ and 1,380 tons of nitrogen oxide emission, demonstrating significant energy-saving and emission-reduction benefits.

Through integration of domestic and foreign sophisticated energy conservation and environmental protection technologies and active development of environmental protection technologies and products, CECEP provides conservation projects and large energy-consuming enterprises specializing in metallurgy, construction materials, petroleum, power, chemical engineering and coal with comprehensive solutions in terms of energy efficiency diagnosis, evaluation, technological transformation, operation & management and financing. In 2016, CECEP Industrial Energy Conservation Co., Ltd. constantly promoted the 1.8 million-ton coal-based oil high-efficiency heating and waste heat generating project in Lu'an. The construction of more than 90% thermoelectric devices has been finished and a boiler has already been put into use for production testing of the main part of Lu'an coal-to-oil project.



Initiating the Industrialization of Waste Gas Comprehensive Management in China

As three coal mines for power generation had been shut down successively and gas extraction amount plummeted in 2016, Ningxia Antai New Energy Joint Stock Co., Ltd. introduced German RWE Group's advanced comprehensive management concept about abandoned mine gas, redesigned the gas extraction technique of Wulan Solar Power Plant, and adopted the ground drainage and extraction plan. Daily extraction of Wulan Power Station had then been increased from 14,000 cubic meters to 40,000 after the three mines had been closed while the daily power generation capacity also increased by 80,000 kWh. The Company maintained and even slightly increased the previous power generation capacity after the mines were closed, becoming pioneer in industrialization of domestic abandoned mine gas comprehensive management.





Protecting Resources for Sustainability

Constructing Energy-saving and Green Buildings

CECEP integrates green technologies to make use of shallow geothermal energy. We provide regional buildings with comprehensive solutions in terms of building energy plan and supply, building energy-saving transformation, and improvement of energy efficiency management. The Group develops and operates special low-carbon demonstration areas and strives to create global sustainable development cities and communities.

In 2016, the area of CECEP's building energy saving service increased by 28.25 million square meters, a 13.28% increase from the previous year. The first project

of CECEP Industry Development Co., Ltd. in Xixi, was the only green real estate project which could be found in G20 official books *Impression of Hangzhou* and *Travel Manual of Hangzhou*, becoming a new representative of new China's economy and model for green business. The low-carbon industrial park of CECEP International Center and CECEP Environmental Protection Investment Development (Jiangxi) Co., Ltd. has acquired the Certificate of Green Building Label of China, LEED Platinum of America and British BREEAM.



The First SUC International Exchange & Practice Base at CECEP Xixi Center in China

Sustainable Urban Development and Livable Garden Community Programme (SUC) is a global demonstration project of Sustainable International Demonstration City and Community jointly launched by the United Nations Environment Program and Jiacui (China) Environmental Promotive Center. Xixi Center's innovation in and integration of sustainable building, ecological landscape and environmental technology reflect its demand on green environmental protection and international vision, making it the first SUC International Exchange & Practice Base in China. The project shows that CECEP's exploration and practice of urban and community sustainable development is moving steadily towards the goal for a newer, higher and more international level.

Xixi Center impresses me a lot. There are many things worth learning from for us peers. We hope that more Chinese energy-saving projects and achievements can be seen by the international community in the future. It can bring benefits to the whole world, no matter it is developing country, developed country or underdeveloped country.

"

Arab Hoballah, the Chief of the Sustainable Consumption and Production Branch in the Division of Technology, Industry and Economics of the United Nations Environment Programme (UNEP)



"



Energy Magic Room - Internet Plus Intelligent Energy Station Construction

On December 27, 2016, the first water source heat pump energy station in Changsha - Binjiang Metro Intelligent Energy Center was officially put into use. Binjiang Metro Intelligent Energy Center is invested by CECEP &CPIH City Energy Conservation Co., Ltd. Through the comprehensive integration of the Internet with energy-saving industries, and full utilization of the water source heat pump central heating system, the center transformed Xiangjiang River into a part of the surrounding shopping malls, office buildings and residential air conditioning system. In summer, heat is extracted out of the building and discharged to the Xiangjiang River to lower the temperature inside the building. In winter, heat in Xiangjiang River will be extracted and send to the building for heating. It can save 15% to 20% energy in summer and 30% to 40% energy in winter compared to the traditional energy supply system without any noise and pollution.





Environmental Protection for Blue Sky and Clean Water

We have regarded the gift of nature as treasures and take care of it meticulously. In order to realize the China's Dream to protect environment, CECEP gives full play to the advantages of environmental protection technologies and management expertise, and carries out environmental and energy consumption monitoring to promote air management, water treatment, ecological restoration and solid waste treatment.

Air Governance



The Group's desulphurization capacity increased by





Air pollution has become one of the most important topics to public concern and China's key environmental issue. Based on its own development, CECEP puts the focus simultaneously on advantageous businesses scientific researches to effectively tackle to air pollution and protect environment. In 2016, the Group's desulphurization capacity increased by 1.369 million tons per year, with an increase rate of 89.12%; denitrification capacity increased by 765,000 tons per year, a year-on-year increase of 384.51%, ranking the top of the industry.



For a Cleaner Sky - Ultra-clean Emissions Renovation Project in Luoyang

In August 2016, CECEP L&T Environmental Technology Co., Ltd. carried out large-scale coalfired boiler smoke selective catalytic reduction (SCR) denitrification device transformation and supporting project in Longquan Kengkou Owned Power Generation Bureau, Yichuan County, Luoyang. The catalyst modules of the first and second layers of the original SCR was dismantled and replaced by the 3 × 300 MW renovated in the project, and catalyst was added to the back-up layer. Besides, supporting equipment such as steam and sonic wave cleaner was installed to ensure that smoke emission after the transformation meet relevant national environmental standards.





Comprehensive Solutions to Grid Air Quality Monitoring Based on Intelligent Environment

Cangzhou Economic and Technological Development Zone is a gathering place of industrial groups represented by mechanical equipment, auto parts, biomedicine and new materials. However, since few local monitoring stations have been set up for the local air quality monitoring and there is a lack of systematic countermeasures and technologies, local enterprises cannot timely discover and respond to crossboundary pollution cases and emergencies. To meet the development demand, CECEP L&T Environmental Technology Co., Ltd. has provided the area with a package of comprehensive regional air quality monitoring solutions integrating design, construction, operation and investment, which, combined with the regional division of grid management, can help the area achieve targeted browse of personnel from different regions.



Equipment Distribution in Cangzhou Economic And Technological Development Zone



Protecting Resources for Sustainability

Water Conservancy





CECEP takes water resources management a key part of its business. With key technical equipment for biological deodorization, efficient biological denitrification, sludge disintegration and bio-fermentation, the Group is committed to improving water quality and water environment through professional measures. In 2016, our capacity to deal with water-related business increased by 5.6062 million tons, up 42.24% from the previous year. Among that, the water production and supply capacity reached 7.12 million tons per day, and sewage treatment capacity reached 11.6682 million tons per day. General Water of China Co., Ltd. was selected among China's Top Ten Most Influential Enterprises in Water Industry and won the bid of Suzhou Bianbei Sewage PPP Project and Bengbu Macheng Water Supply Project. CECEP Water Business Development Co., Ltd. won the Yan'an Sewage PPP Project and Changping Rural Sewage Treatment Project, showing that the Company has entered rural and small urban area's sewage treatment field.



Introducing VFL Technology to Industrial Sewage Treatment for the First Time

In June 2016, sewage treatment and water supply improvement project of the comprehensive environmental management supporting industrial park of Huzhou Wuxing Children's Clothing Industrial Park constructed by General Water of China Sewerage Treatment (Huzhou) Co., Ltd. was put into trial operation. The Project provides production water and production-related sewage treatment service to more than 300 sand washing and printing & dyeing enterprises in the park. The water supply capacity of the Project reaches 12,000 tons per day with a daily sewage treatment capacity of 15,000 tons. The Project adopts the technology and equipment of VFL (Vertical Flow Labyrinth Reactor) from Europe, which features high-degree automation, safety and reliability, low running cost and low sludge production, and can largely increase the efficiency denitrification. VFL technology can meet the stringent environmental requirements, and has the flexibility to adjust the operating parameters according to the changes of water quality, strong impact load capacity, and low energy consumption.





Xiangyang Textile and Garment Industrial Park Water Supply Project

To meet Xiangyang Textile and Garment Industrial Park's need of water supply in the early stage, General Water of China Sewerage Treatment (Xiangyang) Co., Ltd. confirmed a scientific and reasonable scale and plan for the construction of the Project. Once completed, the Project will comprehensively solve problems in the water supply of the industrial park, increase water supply pervasion, expand the water supply area, and help increase the operating revenue. The Project will also better water quality and guarantee safe water in the park and improve the living environment.





Ecological Restoration

CECEP has rich experience in ecological restoration. The Group has independently developed worldleading devices for monitoring heavy metals in water, and acquired technologies to remedy water polluted by heavy metals through biological means, guaranteeing its pioneering role in heavy metal pollution treatment and soil restoration fields. In the field of soil restoration, CECEP DADI Environmental Remediation Co., Ltd., as a leading enterprise of ecological restoration and supporting institution of the State Environmental Protection Engineering Center for Industrial Contaminated Sites and Groundwater Protection, participated in and completed nearly 100 contaminated site and farmland investigation and rehabilitation projects of Taiyuan Chemical Industry Co., Ltd., Xiaodian District of Taiyuan Shanxi and so on. The Group also took part in the preparation of guidance documents of the industry such as *Guide for Environmental Assessment and Restoration of Industrial Enterprises*, participated in national research and development programs such as 863 Program, Major Science and Technology Program for Water Pollution Control and Treatment and environmental protection public welfare. We have meanwhile developed a number of heavy metal pollution treatment technologies, and soil & underground water in-situ remediation technologies independently.

Solid Waste Treatment

In 2016, the Group's solid waste treatment capacity in terms of garbage, biomass, sludge, coal gangue and hazardous waste reached 57,500

tons per day

With a series of core technologies, operation and management experience on waste disposal, CECEP strives to support the coordinated sustainable development of the society, economy and environment. In 2016, the Group's solid waste treatment capacity in terms of garbage, biomass, sludge, coal gangue and hazardous waste reached 57,500 tons per day, ranking first of the industry. Compared to 2015, the Group's solid waste treatment capacity increased by 12,000 tons, a 21.03% increase year-on-year. In November 2016, China National Environmental Protection Group won the bid for 2,000 tons per day waste incineration power generation project at Feixi County, Hefei, which was the largest solid waste treatment project in China that year.



Success at the First Try - The Project of Smelting Cooper from Wasted Printed-Circuit Board through Pyrometallurgical Process

In order to solve pollution caused by electronic waste in Guiyu Town, Guangdong and other cities, CECEP Engineering Technology Institute Co., Ltd. led the investment in and establishment of CECEP (Shantou) Renewable Resources Technology Co., Ltd., and built the first application project of disposing of wasted print circuit boards through pyrometallurgical process. The materials were first put into use on March 5, 2016. Pig cooper was extracted at 8 pm on March 6 with a purity rate exceeding 90%, which passed the technical validation in one time. This is a key project for environment restoration and industry upgrade of China Guiyu Circular Economy Industrial Park, and the first innovation application platform to dispose of wasted print circuit boards through pyrometallurgical process.





Protecting Resources for Sustainability

Recycling for Sustainable Development

The development of circular economy is a major strategic task of China's economic and social development, and an important and basic way to build ecological civilization. CECEP closely sticks to related policies, and seizes opportunities to actively cultivate resources recycling industrial chain. Through innovation and technological progress, we aim to devote ourselves to the construction of a resource-intensive and environment-friendly society.

Waste Recycling

CECEP actively carries out waste recycling. We transform wasted fiber, PET bottles and polyester waste materials into resources, to produce various types of functional polyester staple fiber. The Group has the business to produce industrial high-

New Energysaving and Environmentfriendly Materials CECEP actively explores new development models of circular economy and tries to build an integrated new materials industrial chain. As a world-leading supplier for materials of lithium-ion batteries, we possess world R&D and production capacities of cathode materials for lithium-ion batteries. CECEP's production capacity of energy-saving and environment-friendly materials ranks No. 1 in Asia and No. 2 worldwide. CECEP Green temperature dedusting filter through waste, and is the national environmental protection filter material development base certified by the Textile Product Development Center of the State Textile Industry Bureau.

Building Industry Co., Ltd. has 25 new-type wall material production lines which can produce as many as 2.5 billion of standard units to meet the need of 20 million square meters of building, ranking first in Asia. The Company can save about 4,000 mu of land and 600,000 tons of standard coal equivalent annually while recycling 4 million tons of industrial solid waste.



In November 2016, Shuangyashan Oriental Wall Material Took Its Secondary Palletizing and Burning Shelving and Unshelving System to Participated in the 30th China Wall and Roofing Materials Equipment and Relevant Products Exposition and Became a Highlight



New Product Load-bearing Autoclaved Aerated Concrete (AAC) Passes the Provincial Authentication

On January 8, 2016, the authentication of the new product "load-bearing autoclaved aerated concrete (AAC)" was held in Ningxia Ruize New Materials Co., Ltd. Ningxia New Technology and New Product Promotion Association's expert group unanimously approved the authentication of the new product "bearing aerated concrete block". Using solid waste to produce "load-bearing AAC" is line with China's industrial policies, expanding AAC's inclusive usage in filling the wall, expanding the scope of its application, and extending the industrial chain to fill China's gas in the field.





Clean Energy for Ecological World

With the extensive use of fossil fuels such as coal and oil, resource and environment problems are become more and more serious these days, and the development and utilization of clean energy have aroused great public concern. CECEP, in response to the call of the national energy development strategy, seizes the opportunity and lays stress on clean energy industry, to provide green power for permanent development of a beautiful China.

Wind Power





power installed capacity reached 2,838,500 kilowatts (including projects under construction and projects which have been approved but not yet started).



The First Overseas Wind Power Project

In March 2016, White Rock Wind Farm, co-invested by CECEP Wind-power Corporation Co., Ltd. and Goldwind, officially started construction. The Project is located in New England of New South Wales. With a total investment of RMB 2.1 billion and an installed capacity of 175 megawatts, the Project is the largest wind power plant in New South Wales and the first large-scale wind power project after the legislation of the Renewable Energy Target (RET). It is estimated that after the completion of the Project, 75,000 households will be provided with sufficient renewable energy each year, and local employment will be improved effectively. The Project adds "green power" to economic transformation and upgrade, and achieves a breakthrough as CECEP's first overseas wind power project.



Commissioning of China's First Project to Directly Produce Hydrogen by Wind Power

In 2016, the joint commissioning of the Direct Production of Hydrogen through Wind Power and Fuel Cell Power Generation System Technology Research and Demonstration Project under National High Technology Research and Development Program of China (863 Program) led by CECEP Wind-power Corporation Co., Ltd. was successfully completed, and formally entered the trial operation phase. It is China's first wind power hydrogen production project with independent intellectual property rights that has been put into trial operation. The Project uses clean energy of wind power to produce hydrogen, replacing the traditional high-emission fossil and chemical energy resources, making a technological breakthrough and setting a good example for us to solve the problem of wind power consumption and hydrogen source.





Solar Power



2.08 billion kWh The total power generation

capacity that is being built or has been grid-integrated of CECEP Solar Energy Co., Ltd. reached

3,200 MW

CECEP actively expands its domestic and overseas business. With the advantages of first-class professional technologies and management personnel in the field of solar energy, CECEP has become an outstanding enterprise in the use of solar energy integrating product manufacture, investment & construction, operation & maintenance and technological services. In 2016, CECEP's PV power generation capacity reached 2.08 billion kWh, and the total installed capacity of PV power generation ranked first in the industry. CECEP Solar Energy Co., Ltd.'s total installed capacity contributed by projects under construction and those having been connected to the grid reached 3,200 megawatts, guaranteeing its lasting industrial leading position.



Guangxi's First 70-MW Agricultural Light Complementary PV Power Generation Project Settled in Mashan

CECEP Solar Energy Co., Ltd. formally signed an agreement with Mashan County, Guangxi, symbolizing the launch of the first 70-MW agricultural light complementary PV power generation Project in September 2016. With a planned installed capacity of 70 megawatts, the project will make full use of the natural advantages of Mashan County's wastelands, mountains, slopes and commercial forests, and build a comprehensive project integrating farmer entrepreneurship + specialty farming and breeding + farm leisure sightseeing + agricultural insurance + targeted poverty alleviation + PV power generation.



Leading the Industry with Mass Production of Components Resistant to 1,500-Volt High Pressure

CECEP Solar Energy Technology (Zhenjiang) Co., Ltd. introduced the components resistant to 1,500-volt high pressure, which can be applied to large-scale ground PV power plants. Compared to the previous components resistant to 1,000-volt high pressure, the new component can effectively reduce initial investment and maintenance costs. Successful development and mass production of them can lower the cost and increase profits of PV power plants, effectively promoting the development of the PV industry.

| Comparative Items | 1,500-volt System vs. 1,000-volt System |
|-----------------------------------------------|-----------------------------------------|
| Number of components in the components string | A 54.5% increase from 22 to 34 |
| Number of components strings | A 35% decrease from 1,748 to 1,130 |
| Cost of wire cables | A decrease of RMB 145,000 |
| Cost of combiner boxes | A decrease of RMB 149,000 |
| Cost of DC-side power loss | A decrease of RMB 20,000 per year |
| Cost of total power loss | A decrease of RMB 57,000 each year |
| | |







Seeking Constant Innovation through Concerted Efforts



Focusing on Improving the Ability of Technology R&D to Build a Leading Green and Energy-Saving Brand

The test center of CECEP Solar Energy Technology (Zhenjiang) Co., Ltd. is a key contributor of frontier technologies of CECEP Solar Energy Technology Co., Ltd. After being authorized, it has tried to improve the quality inspection system and software & hardware conditions according to the standards of China National Accreditation Service for Conformity Assessment (CNAS). In February 2016, the center was granted the CNAS certificate and began businesses of internal incoming quality control, process inspection, new material test, etc., the test income totaling RMB 650,000. It also rearranged its aging testing equipment. The test center serves as a technological support and guarantee for the Group's green power generation to contribute to building a healthy, harmonious and orderly testing environment.




The acquisition of CNAS certificate signifies that the test center of CECEP Solar Energy Technology (Zhenjiang) Co., Ltd. is able to conduct tests according to the internationally recognized criteria, and the test result is acceptable both in home and abroad. The certificate also raised the popularity of the test center and strengthened the Group's competitiveness in the market.



Seeking Constant Innovation through Concerted Efforts





Innovative Services for Quality Development

Providing customers with better energy-saving products, technologies and services is the essence of our service. CECEP works to honor its quality commitment, improve its management system and strengthen process quality control. It tries to cultivate wellknown brands and improve the quality of products and services, offering customers quality services and satisfying various demands of customers worldwide.

Customer Management

Adhering to its service philosophy of "making best effort to provide high-quality services for customers", CECEP constantly improves customer service system to protect their proper rights and interests; it also ensures the safety of customers' information and safeguard their right to be informed, so as to enable them to understand the full picture of the Group and create more values for customers. The CECEP Assets Management Co., Ltd. standardizes the process management, ensuring a high customer satisfaction rate of 99.3%. CECEP Industrial Energy Conservation Co., Ltd. pays high attention to the protection of customers' privacy and no customer information has been leaked.

Overview of Customer Relationship Management System









An All-around Water Supply and Marketing Service System

General Water of China Co., Ltd. attaches great importance to the quality of water supply service. While constantly improving water quality, it also works on increasing service ability and awareness. Various water supply and marketing service platforms have been established through multiple channels, such as paper media, hotline, Internet, text message and WeChat, forming a water supply and marketing service system integrating customer service, support, appeal and dispute solutions.

General Water of China Sewerage Treatment (Xiangtan) Co., Ltd.

The Satisfaction Enhancement Leading Team" and Satisfaction Improvement Office have been set up, receiving 15,669 orders, 46,301 calls and 45 demands for assistance in 2016



General Water of China (Bengbu) Co., Ltd.

The first-asking responsibility system and the first responsible person system have been established to ensure that every user's demand for assistance is recorded and responded timely

General Water of China (Xiangyang) Co., Ltd.

A water supply coordination mechanism with the water supply hotline 3454696 as the pivot has been formed. Staff is prepared 24/7 to handle emergencies timely

Quality Control

CECEP works to optimize the production system, make optimal production schedules, implement quality management policies, and conduct strict production process quality control to increase its test ability and product quality. In 2016, CECEP launched the Quality Month activity to strengthen its risk management ability and guarantee whole-process dynamic inspection on production. As a result, no product safety incidence ever happened in 2016. To increase product quality and ensure the pass rate, the CECEP Assets Management Co., Ltd. inspected every batch of products with an inspection rate of 100%. The product passing rate of 2016 reached 99%. CECEP Environmental Protection Investment Development (Jiangxi) Co., Ltd. awarded the Famous Trademark of Jiangxi Province. Its products enjoy a long warranty period of five years, which helps build up a good brand image.



Improving Quality Control to Produce Products Meeting Aerospace Quality Standard

As a permanent cooperative partner of China's space industry, New Era Health Industry (Group) Co., Ltd. takes product quality as a crucial factor to its destiny. So the Company constantly improves product quality management, as well as quantifies and standardizes quality elements. A quality control system has been established, covering standard formulation, raw material control, development control, production control and inspection control, to ensure that products can meet aerospace quality standards.







Green Operation for Low-carbon Development

CECEP pursues the green, circular and low-carbon development by leading technological progress; it takes "building a beautiful China" as its mission, promoting ecological progress and integrating permanent development into corporate development strategies; CECEP pays great attention to energy conservation and emission reduction by insisting on green production, green operation and green office; it also protects biodiversity, making constant efforts to improve the environment.

Green Management



We attach great importance to energy conservation and emission reduction, setting specific energy-saving positions and developing the "energy conservation and emission reduction integrated monitoring system" to collect and monitor related data. In 2016, the energy consumption of CECEP amounted to 1.3006 million tons of standard coal equivalent and the comprehensive energy consumption (comparable price) was 0.39 tons of standard coal equivalent/RMB 10.000.

The Group increased its investment in environmental protection, and key enterprises made special fund plans such as the Fund for Environmental Monitoring of Old Facilities and Fund for Changing Environmental Protection Facilities Regularly. The whole investment in the year amounted to around RMB 510 million, providing great support for environmental protection work. While carrying out a program, the Group also assessed the impact of enterprises on the environment of communities and the society by establishing and improving the communication mechanism for representatives of communities to participate into the program. In 2016, the Group's approval and record rate of the assessment of construction programs' environmental impact increased from 94% to 99%. and the rate of programs passing the environmental protection standard increased from 83% to 90% with no environmental incident happened. CECEP Industry Development Co., Ltd. constantly improves the management and monitoring of energy conservation and emission reduction work, and all new programs are subject to environmental and social impact assessments.









Exploring New Ways of Energy Conservation Governance

In 2016, CECEP Valiant Co., Ltd. invested RMB 89.10 million to explore new ways of energy conservation governance.



Green Life



total of

In 2016, all second-tier

subsidiaries carried out a

competitions to promote environmental protection and increase the environmental protection awareness of all staff. In 2016, all second-tier subsidiaries carried out 2,292 trainings programs covering 27,402 trainees, including 327 training programs for 833 leaders and personnel in charge.

Cas

CECEP launched various activities such as lectures,

emergency drills, knowledge contests and writing

We called upon our employees to save every piece of paper, every kilowatt of power and every drop of water, and launched the initiative of "taking the lead to protect the environment and striving to be a guard for energy saving and emission reduction". We proposed to bring their own toiletries while on business trips to reduce the use of disposable ones, making concerted efforts to build an energy and water-saving enterprise. In 2016, the Jieneng Mansion consumed 25,210 cubic meters of water, 2,736,190 kWh of electricity and 277,958 cubic meters of natural gas.



Recreating the Central Ventilation System to Improve Workplace Environment

The central ventilation system of Jieneng Mansion, having worked for 12 years, had become aging. The system sent out small amount of wind, made much noise, and could not filter PM2.5, failing to meet the air quality requirement in conference rooms, offices and stairways. Therefore, the Group invited Beijing Juhechuangsheng Commerce Service Co., Ltd. to install ventilation openings, humidifiers and PM2.5 purifiers in offices, conference rooms and corridors to improve air quality and reduce noise. Advanced technologies were also applied to lamp boxes and LED light sources. The overall frame of neon lamps was improved to become rust-proof, so that it is safer and more durable. The renewed lamps consume less energy while the brightness become higher and failure rate much lower, bringing to us higher benefits.





Management Improvement for Efficient Development

CECEP sticks to the task of "management improvement", constantly strengthens strategic management and promotes standardization and informatization to improve its management efficiency.

Industrial Restructuring

CECEP creates an industrial integration platform to enhance the restructuring and integration within the industry and state-owned system. By doing this, we aim to change the fact that the companies within the industry are small and disordered with poor technologies, have no concept of sharing and environmental protection, lack sustainability, and fall behind overseas outstanding counterparts. CECEP shoulders the mission to lead the industry in order to create a series of industrial development platforms integrating energy saving, environmental protection, resource recycling and reuse, clean energy, green engineering technology service and Internet-finance integration.

Informatization Management

CECEP focuses on informatization, and has promoted the popularization and application of established unified construction systems and improved the usability, coverage and usage rate of these systems. It also facilitates standardization while promoting informatization. At the same time, CECEP shares informatization and management experience with the industry and the nation.



CECEP Undertakes the First National Informatization Subject

National Science and Technology Information System, the Public Service Platform, released the list of "cloud computing and big data", the national key R&D plan in 2016. The Trans-time-and-space Multi-source Heterogeneous Data Integration and Open Sharing Technology and Platform Program, a program led by Inspur Group and jointly applied by dozens of companies including CECEP, was selected as a national key R&D program, which was also the first national informatization program that CECEP was undertaken. The Program aims to contribute to tackling issues like the open sharing of government data, the integration of data resources and insufficient cognitive analysis, solving difficulties constraining governments in big data collection, cognition, transaction and platform creation. It is of great significance for CECEP to promote informatization construction.





Standardization

2016 is the year for CECEP to consolidate standardization construction. The Group enhanced standardization according to the idea of "compiling brochures, launching pilot projects, expanding and implementing informatization". In 2016, the Group organized standardization training clubs, benchmarking meetings, acceptance inspections and evaluations to promote standardization progressively, and 1,000 staff members covering all second-tier subsidiaries and 34 third-tier and fourth-tier subsidiaries got trained.



Building a Long-term Mechanism for Standardization

CECEP constantly expands standardization activities in order to create a good atmosphere for standardization practices. By formulating the work guidance for standardization, setting assessment criteria for corporate management and making the standardization talent and team development plan, CECEP aims to integrate standardization into daily operations and build a long-term mechanism for standardization.



CECEP Standardization Work Guidance

Comprehensively explain the guiding thoughts, methodologies and implementing approaches of standardization, and guide member organizations to better carry out and normalize standardization construction

CECEP Corporate Management Assessment Criteria

Set assessment criteria for corporate management from perspectives like management coverage, fineness and horizontal coherence in order to assess the Group's standardization degree and corporate management level, and promote the improvement of standardization and management at all levels of enterprises

CECEP Standardization Talent and Team Development Plan

Clarify CECEP's screening criteria for "standardization managers", and provide human resources for the normalization of standardization



Innovation-driven Transformation and Development

Innovation is the inexhaustible driving force and eternal essence for the development of an enterprise. CECEP takes innovation-driven development as it key and makes innovation as the essential driving force of CECEP's reform and development to constantly promote its rapid and sound development.

Innovation Management

To meet the current and future demands of China's energy conservation and environmental protection industry, CECEP has established the "four-in-one" organizational structure for technology management and technological R&D, which consists of the Science & Technology Commission, Technology Management Department, CECEP Engineering Technology Institute Co., Ltd. and R&D centers of CECEP subsidiaries. Through independent R&D, industry-universityresearch cooperation and international exchange, CECEP has strengthened the research, application and popularization of key techniques, enhancing its core business ability in the field of energy conservation and environmental protection. As of the end of 2016, CECEP had employed 2,067 scientific and technical employees with a technology transfer rate of 90%.

Technological R&D Investment from 2013 to 2016 (RMB 100 Million)



Scientific and Technological Development Plan

Study and formulate CECEP 2016-2020 Scientific and Technological Development Plan, providing guidance and services for the construction of a technology- and service-oriented conglomerate

Technological Intelligence Management and Research Platform

Form an intelligence system to improve the ability of information acquisition and quick response

nent

Technological R&D System

complete system

Establish the Science & Technology Commission and its special technical committees, and set up CECEP Engineering Technology Institute Co., Ltd. and other branch institutes to form a coordinated and complimentary structure with different focuses

Technological Management System Work out 11 regulations successively covering the management of project, fund, performance appraisal, incentive, and technological

evaluation, forming a relatively

Incentive Mechanism for Technological Innovation

Form a cultural atmosphere that respects knowledge, talents and advocates innovation

Improving the Level of Technology Management





Improving the Ability of Technical Innovation



Innovation Achievements

CECEP encourages its subsidiaries to develop innovative products and establish product innovation system for providing better products for customers. In 2016, CECEP's sales of new products totaled RMB 8.12647 billion.

| Subsidiaries | Innovative Techniques and Achievements | Comprehensive Values |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CECEP Industrial Energy Conservation Co., Ltd. | The Coal-fired Boiler Pollutants Integrated Control Technology Engineering Demonstration Project successfully applied for the key research and development project of the 13th Five-year Plan in July 2016 | Being of great significance for the control of coal-fired boiler pollutants and promote the technical revolution of the coal energy conservation and environmental protection industry |
| CECEP Solar Energy Co., Ltd. | Won the Second Prize of National Science and Technology Progress Award in Dec 2016; the power generating efficiency of the solar cell invented by it is 3.5% higher than that of normal solar cells on average | Becoming the first to mass-produce double-glass modules with PVB materials; the revenue increased for 21% because of the application of advanced techniques |
| CECEP Wind- power Corporation Co., Ltd. | It completed the Direct Production of Hydrogen through Wind Power and Fuel Cell Power Generation System Technology Research and Demonstration Project under National High Technology Research and Development Program of China (863 Program), and the hydrogen production technology passed the acceptance inspection | Being of great prospective and demonstrative significance for generating wind power and producing hydrogens |







Joint Efforts for Better Safety

Ensuring Everyone's Safety

On July 8, 2016, a violent military confrontation broke out in Juba, the capital city of South Sudan, and spread throughout the country. At that time, there were 42 Chinese employees and one Pakistani employee from the East Africa Manager Department of China New Era Overseas Engineering Co., ltd. of China New Era Group Corporation.

To ensure the safety of employees, on July 9, CECEP initiated an emergency contingency plan, established an

emergency response leading group and held a meeting to discuss the response plan. Under the command of the leading group, the East Africa Manager Department worked actively with local government, army and police, and kept a close communication with the Chinese embassy to seek for help and support. From July 10 to 11, as the armed conflict continued to escalate, the East Africa Manager Department enacted an evacuation plan promptly both by land and by air, and signed custodial





agreements with the local government and security company, sparing no efforts to ensure safety of every employee Thanks to the joint efforts and well-prepared arrangement, from July 11 to 16, all employees were evacuated from South Sudan, safe and sound. Though the situation had been unpredictable and complex, CECEP, attaching great importance to the safety of employees, protected their life and property with the close cooperation from home and abroad.



Joint Efforts for Better Safety





Meticulous Safety Management

Safety is the lifeline of an enterprise and brings the maximum benefit. CECEP has optimized the construction of the system, organization and institution of work safety, strictly implemented the work safety accountability system, and fulfilled entity and local safety responsibility. We have strengthened the identification of risk and potential risks and improved the level of risk prevention in work safety. We have also deepened security inspection, supervision on major projects and improved employees' awareness and work safety ability. Besides, we have enhanced safety training and the construction of the safety management team to provide potent support for the Group's safety management.







Joint Efforts for Better Safety



Safety Management is No Little Matter

With work safety regulations, we ensured safety in all aspects. China National Environmental Protection Group set eyes on details to ensure work safety.



Veto system. General Water of China Co., Ltd. has improved the safety management system and recognized veto power. If companies or individuals responsible for environmental safety accidents lied about or hide the truth of the accidents, they were not qualified to be selected as outstanding company or staff.

All-round safety management of contractors. In order to build a safer supply chain, Weifang Huawei Thermal Power Co., Ltd. has strengthened the safety management of contractors and raised their relevant awareness and ability.

- Strictly controlled the access of construction personnel of outsourced projects, and forbade non-qualified personnel and those do not meet the age requirement entering the overhaul site
- Supervised outsourced overhauling projects with no accident happening in the whole year



- Signed the security agreement and clarified responsibilities of both parties
- Carried out safety training and technical disclosure, introduced security inspection plan according to the identification of dangers, and developed a safety measure confirmation form





Systematic Emergency Response System



Emergency response management is the top priority of work safety. We have established an integrated and efficient work safety emergency response management system, and enhanced emergency duty and rescue commanding. We also pushed forward the compilation of emergency contingency plans at all levels and strengthened emergency drills. By doing this, we can gain the initiative in emergency management and nip accidents in the bud. In 2016, we carried out more than 360 emergency response drills, which improved our response ability effectively.









Observing and Learning from Drills of Operations in Limited Spaces

During the Work Safety Month, CECEP organized employees to observe and learn from drills of operations in limited spaces and safety training activity to reinforce the emergency response ability and the work safety management ability of leaders at all levels and safety supervisors. More than 150 people took part in the activity.

The drills reproduced the emergency response and rescue process of accidents in limited space, such as transformer tanks, wells and sewage reservoirs. CECEP, with well-organized planning, accomplished drills successfully through seamless collaboration of resources of the Group and the local government. Leaders and experts gave high praises to the activity, especially the demonstration of standard operation procedure in limited spaces.



Together, We Established a Safety Shield

From July 19 to 22, Beijing successively issued blue and orange rainstorm alerts, and an orange alert of geologic disaster. Soon, CECEP Water Development (Tongzhou) Co., ltd. started flood prevention contingency plan. All personnel, vehicles and equipment were in place. Special personnel teams were ready for emergencies. On July 20, water seepage at different degrees occurred in the water plants in Xidingfu Village of Zhangjiawan Town and Yujiawu Township. Eight members from the special personnel team took timely action. They spared no efforts to cope with the accidents, from pumping water to consolidating sandbags, from watching water-level closely to equipment maintenance. Their clothes kept getting soaked and dried repeatedly. They hardly had time for meal while busily preventing the flood. It was not until 4 or 5 p.m. that the alerts were eliminated. Finally the team members were relieved. It is these obscure maintainers of infrastructure and employees of water affairs from CECEP that support our daily life with their enthusiasm and great efforts.





Safety Culture in Mind and Action

Safety culture is the cornerstone of safe, harmonious, standard and efficient development of an enterprise. CECEP has actively cultivated strong safety culture, improved employees' safety awareness and changed their understanding of the safety concept. On the basis of affectional education, we wanted to create a safe and efficient company.



Work Safety Month – We Are Taking Actions

We organized Work Safety Month themed with Enhancing Safe Development Perception and Improving the Public Safety Awareness. Our subsidiaries carried out well-prepared campaigns, such as emergency drills, safety training, security inspection and safety commitment, which raised the work safety awareness and skills of employees and leaders at all levels.





CECEP Environmental Protection Investment Development (Jiangxi) Co., Ltd. Organized A Visit of the Safety Information Display Area



General Water of China (Xiangyang) Co., Ltd. Offered Consulting Services and Distributed Free Convenience Service Handbooks









Stay Vigilant

Work safety is vital to the life and property security of the people and even to the blueprint of reform and development. Safety is the basis of all undertakings. We not only strengthen the construction of our own safety capability, but also improve the safety management of the supply chain. We have established an all-round management system, launched identification of sources of risks, enhanced supervision and rectification, and promoted emergency management. Moreover, we have organized safety education and constructed safety culture, aiming to nipped risks in the bud.

Line-of-duty Death Rate per RMB 100 Million of Output Value (%)











Concerted Efforts for the Common Ideal



In order to implement the Belt and Road Initiative and advance the transfer of construction material and equipment industry to foreign countries, CECEP Green Building Industry Co., Ltd. gave play to its comparative advantages, and established an initial intention concerning the cooperation in brick and tile equipment between China and Bangladesh with China Building Materials Federation, Bangladesh's Ministry of Industries and Ministry of Finance and other related apartments. On June 2, 2016, Bangladesh Brick and Tile Industry Upgrading and Industry Park Construction Project was included into Bangladesh-China-India-Myanmar Economic Corridor Construction and Pragmatic Cooperation Plan by the National Development and Reform Commission, which indicated that the Project had become an interstate cooperative project to provide a good policy environment for the smooth progress in business negotiation and financing between the





two countries. The Project solved the excess capacity with the assistance of other countries, enabled domestic technologies and equipment to go global, and innovated the Going Global cooperation mode of the construction material industry. It also promoted the construction of Bangladesh-China-India-Myanmar Economic Corridor and the community of interest that benefits the people of Bangladesh and China.



Concerted Efforts for the Common Ideal





Strategic Cooperation for Common Development



CECEP attached great importance to the development of major markets, areas and clients, and enhanced the strategic cooperation with ministries and commissions, provincial and municipal governments as well as major corporations. We have been constantly serving regions, enterprises and industries by offering comprehensive solutions of energy conservation, emission reduction and environmental improvement. In 2016, we participated in 108 major communication and cooperation projects, signed 25 strategic agreements, and received visiting partners for more than 1,000 times.

Domestic Cooperation CECEP excavated the potential of cooperation and gave full play to the advantages of each party. We carried out import and export of environmental protection technologies together with domestic governments, enterprises and universities, and according to the principles of advantage complementation, mutual benefits, equity, and win-win cooperation, we have established a long-term strategic cooperative relationship. We have launched comprehensive and deepened cooperation with advanced technologies, innovative philosophies and modes, and become the forerunner of the brand-new overall service mode in energy conservation and environmental protection.



Forerunner of New Comprehensive Service Mode in Energy Conservation and Environmental Protection

As a provider of comprehensive solutions to sustainable development of cities, CECEP signed an agreement with the Xi'an municipal government. The Project covers six areas including the development and production of energy-saving and environment-friendly equipment, the comprehensive utilization of municipal solid waste and construction of venous industrial park, development of city water affairs, new energy and renewable energy, energy conservation and environmental protection in the city, the construction of a smart city and the establishment of special development funds. The investment totaled RMB 10.7 billion. As a forerunner in energy conservation and environmental protection, CECEP is committed to providing Xi'an with comprehensive solutions and systematic services in energy saving and emission reduction. We have established a responsibility system for green industry ecosystem with advanced philosophies and technologies, demonstrating our unique and strong comprehensive service ability in energy conservation and environmental protection.



Five-year Plan Contributing to Local Energy Conservation and Consumption Reduction

According to the strategic cooperation agreement we have signed with Sichuan Provincial Economic and Information Commission in Chengdu, in the coming five years, we will carry out all-round cooperation on the basis of "plan on the whole, stress on the key points, pilot projects first and all-around promotion". CECEP will make great contribution to the construction of online energyconsumption monitoring system for key energy consuming units in Sichuan Province, and invest in the construction of centralized area for electroplating industry (functional area). We will also promote the upgrade of energy conservation and emission reduction projects of industries and industrial parks as well as the integrated utilization of clean energy distributed energy resources in order to realize greener local development.







Concerted Efforts for the Common Ideal

International Cooperation

Energy conservation and environmental protection is a borderless issue. Thus, cooperation based on green industries has become our common choice. CECEP participated in the activities of international and government organizations which strengthened the communication with internationally famous enterprises and financial organizations to improve

cooperation as well as mutual understanding and trust. Moreover, we expanded foreign business, explored the construction of green infrastructure and environment-friendly low-carbon industrial parks, aiming to improve the global environment and sustainable competitiveness.

Major Events of International Cooperation(Partial)

CECEP Green Building Industry Co., Ltd. together with organizations of upstream and downstream sectors of the industry, carried out the China-Bangladesh building material cooperative projects by virtue of intergovernmental cooperation and favorable national policy







Responsible Procurement for Shared Value

CECEP implements six categories and 16 benchmarking indicators including the purchasing management system, centralized purchasing, standardized biding management, supplier management and basic management of purchasing. We have established a management system of infrastructure construction suppliers, a unified supplier database and an e-commerce purchasing platform. We regard social responsibility fulfillment performance as an important criterion when selecting partners, and spare no efforts to create a market environment with standardized operation and fair, open, transparent competition. In 2016, 95% of the suppliers of CECEP Green Building Industry Co., Ltd. have obtained the certificate of the quality, environment, occupational health and safety system, and all of them have completed their contracted tasks. Moreover, 100% of the suppliers of CECEP Solar Energy Co., Ltd. have obtained the certificate of the quality, environment, occupational health and safety system.





Concerted Efforts for the Common Ideal

Industrial Exchanges for Common Progress

CECEP has advocated honest operation and fair competition, participated in industrial exchanges, and shared experience in energy conservation and environmental protection with industrial counterparts. We participated in the preparation of national and industrial standards to help regulate and drive industrial development. In 2016, we led or participated in the establishment of three national, industrial and local standards.



Following the Industry Trend and Promoting Technological Communication

CECEP Solar Energy Co., Ltd. has closely followed the technology trend of PV industry and other relevant industries, conducted technology exchanges with scientific research institutions and international pioneer enterprises, and paid attention to the attitude of experts and enterprises towards technology. We have issued New Technology Monthly that introduces cutting-edge technologies in the form of features, and issued PV Technology Information to report the status quo and trend of global technology. We shared and discussed technological information via online platforms inside the system, which enabled technical personnel to follow the latest technology trend of the world in PV, photothermal, energy storage and energy Internet. It will guide the technological exchanges in PV industry and improve our foresight in studying PV industry.



Enterprise-university-research Cooperation for the Construction of Green and Smart Industry Park

CECEP Industry Development Co., Ltd. reached a cooperative agreement with University of Electronic Science and Technology of China. Aiming at the study on green and smart industrial park, we integrated the technological and market resources of both parties and carried out enterprise-university-research cooperation. Up to now, we have finished the development of software projects including the Public Service Platform of Low-carbon Energy Big-Data, Wireless Meter Reading Front-end System and Cloud-management Platform of Green, Low-carbon and Smart Park, and obtained the software copyrights. Among them, the energy data of the Public Service Platform of Low-carbon Energy Big-Data traveled stably and the platform has been operating properly.







Cultivation of Talents

Contributions to Mountainous Areas by Xi'an Sifang Construction Supervision Co., Ltd.

Respectable and lovely employees of CECEP have won one victory after another with great courage, willpower and wisdom. On May 17, 2016, the Engineering Department of Xi'an Sifang Construction Supervision Co., Ltd., a subsidiary under China New Era International Engineering Corporation went to visit the Xi'an Modern Chemistry Research Institute (No.204 Institute) in Luonan County. The Project is located in the northern foot of the Qinling Mountains with poor traffic and lack of production and living facilities. Under the leadership of Project Director Zhang Lishan, employees of the



Engineering Department overcame great difficulties and loneliness, and provided valuable proposals for the project owners with dedication, diligence, strict standards, great enthusiasm, and responsible working attitude, winning the respect and trust of the owners.



Cultivation of Talents





Enhanced Protection of Employees' Rights and Interests

Adhering to the principle of "valuing employees' capability of creating values and promoting development", CECEP insists on sharing the fruits of development with employees, safeguarding their legitimate rights and interests, caring for their career development, health and safety, and hoping to realize shared growth and development of the Group and employees.

Equal Employment

We respect labor, knowledge, and talents by always putting people first and strictly abiding by employment laws and regulations. On the basis of equality, free will and consensus, we sign labor contracts with employees and pay social insurance and housing fund in fully according the national policy. Moreover, we implement the paid leave provisions in strict accordance with national policies in order to protect the rights and interests of employees. We actively create jobs for college graduates, migrant workers and military cadres, thus awarded the National Advanced Units in Promoting the Employment of Military Cadres. By the end of 2016, the signing rate of labor contract, social insurance coverage rate, physical examination and health record coverage rate had all reached 100%.

Labor Union Members of CECEP's Employees (%)



CECEP's Employee Turnover (%)



80 78.06

CECEP's Local Hires (%)

76.38

2014

78

76

74

72





Complaints from CECEP's Employees CECEP's Employee Satisfaction (%)

2016



2015

100 98 95.69 96



Democratic Management

CECEP actively improves the equal and open dialogue mechanism by broadening the channels for employees' involvement in corporate democratic management and protecting employees' right to know, right to participate, right of expression, and right of supervision. Through labor unions and Youth League, CECEP collects rational proposals on employees' concerns and difficult issues to motivate employees' enthusiasm. By the end of 2016, the labor union building rate of second-tier subsidiaries of CECEP had also reached 100%.

94

92

Occupational Health

CECEP attaches great importance to the health and safety of employees by strictly observing occupational health laws and regulations, striving to provide employees with a safe working environment. In 2016, CECEP actively promoted the information collection work on the China Occupational Health WeChat platform by making full use of its information technology, to publicize occupational health knowledge. CECEP Valiant Co., Ltd. invested RMB 12 million in occupational health and safety. CECEP & CPIH City Energy Conservation Co., Ltd. was honored with the Occupational Health and Safety Management System Certification.



Cultivation of Talents

Better Development of Employees

CECEP further expanded the platform for employees' development, improved the management and professional career development channels, and provided fair and equal career promotion channels and development opportunities for employees. CECEP also valued the improvement of employees' capabilities by building a comprehensive and hierarchical training system, providing broader development space for employees.

Career Development

CECEP improved employee management system, widened employee development channels, and developed *Regulations on Job and Position Management* and *Regulations on Remuneration* *Management*, providing basis for employees' promotion and promoting shared development between the Group and employees.

Managerial Position Promotion Channel



Adhering to the basic principles of talent selection, we have built dual promotion channels, clarified position criterion and operation process, fixed the promotion cycle, and made great breakthroughs and innovations in refining promotion requirements and improving exceptional promotion procedures.





Training and Exchange



The total training hours increased by more than **5%**

on a year-on-year basis

CECEP increased investment in employee training by improving the talent cultivation system, building a hierarchical employee training system, and developing a key talents-oriented employee development pattern for functional professionals and industrial professionals.

CECEP took the Blue Sky Talent Training Plan as a typical leadership development training program, aiming to cultivate executives and professional managers at all levels. Serial training programs themed Green Sapling, Green Pine, Green Mountain and Blue Sky, were held to promote the improvement of employees' professional knowledge and skills. In 2016, CECEP invested about RMB 3.7448 million in more than 70 employee training projects and increased the total training hours by 5% year on year. Among them, the Blue Sky Talent Training Plan attracted 780 participants in 17 training classes, with per capita training time reaching 55 hours.



The Second China Green Cup Employee Skill Competition

During the period from June 23 to 25, 2016, CECEP held the Second China Green Cup Employee Skill Competition. Five out of 12 competitors from China National Environmental Protection Group won the honor of Central SOE Technical Experts and four competitors won the honor of CECEP Technical Experts, showing the frontline employees' proficient skills and high spirit, promoting the development of high-skilled professionals, and enhancing the overall quality of employees.





Cultivation of Talents





Opening a New Epoch of Life for New Employees

New employees inject fresh blood for CECEP. To build up new employees' competence ability, CECEP organized an orientation for 2016 new employees, including military training, training camp, team building, lectures, visiting and internship. Military training helps new employees strengthen their will and build up their body, lectures help develop their spirit of due diligence and adapt to the new role, and training camp helps improve their team spirit. Through the orientation, new employees broadened their vision on clean energy technology, and developed their interest in wind, light, electricity and heat.



Thousands of miles apart and among millions of people, we met with each other because of fate. The orientation for new employees prepared us with the power to make greater breakthroughs. We came here for the same ideal with the same feeling and mission. In the future, we will be the watchmen of CECEP, our spiritual home, and make concerted efforts for a better living environment with clearer sky, cleaner water and greener landscape.

2016 New Employees









"





Building a Better CECEP

As time goes by, generation after generation of CECEP employees are more determined to pursue their beliefs and values through hard work, and a positive and progressive attitude. In CECEP, there are such a group of people who promote the rapid development of CECEP while achieving self-value with dedication, perseverance, sense of responsibility, and fine traditions, winning a beautiful life with passion and sweat. They are "CECEP model workers".



Hui Yanlong, the Director of Public Affairs, China Mechanical Engineering (Xi'an) Qi Yuan Consulting & Designing Co., Ltd.

He actively participated in the planning of the Group's PV EPC projects, laying a solid technical foundation for corporate business transformation, contributing to the rapid development of local new energy industry, and exerting far-reaching influence on leading the transformation of green economy and industrial transformation.



Ji Ruihuan, the Workshop Director, CECEP Guohuan New Material Co., Lt

With superb technical skills and outstanding innovation ability, he conducted technological transformation of equipment and production processes, promoting the brick industry's progress and development, effectively enhancing product quality, reducing production costs, improving the technological innovation in related industries, and promoting the overall development of wall and road material industry.



Wang Qiang, the General Manager, General Water of China (Bengbu) Co., Lt

By virtue of corporate brand and local advantages, he participated in the overall strategic objectives of integrating the water markets of counties and townships surrounding Bengbu City by formulating the development plan of "integration of regional water supply", speeding up the construction of major water supply projects with the policy support for franchise, and driving the connection of the construction of large water supply projects with major cross-regional water supply facilities.



Zhu Dongbin, the Director of Electricity Operation Department, CECEP Sugian Biomass Power Plant

He personally led and participated in the completion of 23 R&D projects in the field of biomass power generation, the application of more than 20 utility model patents, and the preparation and trial of eight manuals. He also led the completion of a training base for domestic biomass power generation industry. He actively expanded the heating business, making great contributions to promoting the Group to become the first one realizing cogeneration in the biomass power generation industry.



Tang Ling, the Deputy Director of Production Department,

He organized hundreds of technological transformation projects with employees, among which gas turbine onduty fuel alternative technology broke the technical bottleneck that gas turbine fails to be fueled by blast furnace gas with low calorific value only, thus won the second prize of of the Scientific and Technological Progress Award issued by China Association of Circular Economy (CARCU).



Liu Fengzhen, a Production Specialist of Production Management Department, Yantai New Era Health Industry (Group) Co., Ltd.

She cultivated around ten skilled workers and many technicians, carried out reforms, and made 24 scientific and technological achievements, saving more than RMB 1 million cost. Moreover, a number of her technological innovations have been widely applied in the industry to solve industrial problems.



Huang Wanghong, the Senior Engineer, Lanzhou Engineering & Research Institute of Nonferrous Metallurgy Co., Ltd.

Following the pace of innovation and development of mining science and technology, he actively advocated and promoted the application of foreign advanced three-dimensional mining software in corporate projects, drasticcally shortening open-pit mining project's design cycle and winning wide recognition.



Gou Xianfang, the Director of Technological R&D center, CECEP Solar Energy Co., Ltd.

She ushered in a new round of technological innovation and improvement within the company by structuring a great number of scientific innovation platforms including Jiangsu Corporate Technology Research Center, Jiangsu Crystalline Silicon Solar Cell and Component Technology Research Center, Jiangsu Post-doctoral Innovation Practice Base, and Jiangsu Graduate Student Work Station to provide customers with more efficient technological products with leading rate of finished products.



Employee Care for Better Career Development

CECEP values the happiness of every employee by caring them from aspects of life, emotion and growth, advocating positive, green and healthy lifestyles, and guiding them to pursue a better life.

Sincere Love

CECEP attaches great importance to employees' life and takes improving team cohesion, employees' sense of belonging and happiness index as one of the top priorities. In 2016, we organized 12 events such as staff sports meeting, table tennis match, badminton match, lectures for children and brisk walking with the participation of 1,950 people, contributing to the enhancement of cohesion and sense of belonging.



A Spiritual Home

CECEP puts great efforts on work style construction and Party building by setting up a good public image and creating a good corporate culture atmosphere, which is conducive to the further enhancement of corporate soft power.



Developing Seven Series Activities

During the period from April to June in 2016, China New Era International Engineering Corporation carried out Seven-Ones serial activities to celebrate the Group's 65th anniversary, which inspired employees' love and dedication to work and enthusiasm for making contributions.









Repay the Society with Sincerity

CECEP's perseverance in organizing charity donation activities themed Idle Things for Love Donation results from the concept of energy conservation and its employees' voluntary spirits, playing a key role in promoting the construction of spiritual civilization, the development of CECEP's main business and CECEP's environmental protection cause.

This is Love

Zhang Tiejia, the Former Deputy Director of SASAC Civilization Office of the State Council

In order to make the "idle things" accessible to others in need, CECEP has kept close contact with energysaving residents and conducted long-term public good activities themed Idle Things for Love Donations by virtue of launching initiatives in CECEP to advocate employees to donate used or idle objects at home. We have optimized the operation mode for public good activities and actively given play to professional advantages of public good agencies to develop regular donations, effectively tackling the difficulties of donation storage, disposition and transportation. The public good activities themed Idle Things for Love Donations were widely recognized by employees. By now, a total of more than 500 people have donated 4,000 Idle things in total, including clothes and shoes, used bedding, stationery and electric appliances,





which were transferred in four batches to the donation warehouse in Xiaoying, Haidian designated by the Beijing Charity Volunteer Federation. In the future, we will continue such activities to advocate more people to participate in public good activities and transfer love and warmth.



Repay the Society with Sincerity





Assisting Xinjiang and Tibet's Development for Shared Harmony

Assisting the development of Xinjiang, Qinghai and Tibet is the major strategic decision made by CPC Central Committee and the State Council, with the purpose to provide a strong support for the sustainable development and long-term stability of these regions. We actively implemented the national policy by steadily promoting the economic and social development of Xinjiang, Qinghai and Tibet by virtue of blood-making poverty alleviation such as poverty alleviation through science and industry development.

A Better Xinjiang

Industry Support

- CECEP Wind-power Corporation Co., Ltd. actively built the 200,000-kilowatt wind power project in B area of No.3 Wind Farm of Hami Jingxia, Xinjiang Autonomous Region
- CECEP Solar Energy Co., Ltd. invested in five PV projects in Xinjiang, providing a total of 140 MW of electricity

Employment Support

- To assist Xinjiang through industry development and employment improvement, CECEP (Xinjiang) Wind-power Corporation Co., Ltd. hired 19 locals and made the best effort to employ local people in the construction of projects
- CECEP Solar Energy (Xinjiang) Co., Ltd. sent three key talents to work in Xinjiang and employed 84 local Xinjiang people



Charity Support

- CECEP Solar Energy (Shanshan) Co., Ltd. sent necessities of rice, flour and oil to Uighur widows and veterans with a total value of more than RMB 900
- CECEP Solar Energy Technology (Luntai) Co., Ltd. conducted a donation activity themed Spreading Love and Warmth, and 50 pieces of clothes were donated
- Employees of Aksu Shuqimeng PV Power Co., Ltd. and Aksu Rongchuang Optoelectronics Technology Co., Ltd. jointly carried out Learning from Lei Feng activity to clean urban railings.
- CECEP Solar Energy Co., Ltd. responded positively to the call of the government of Wushi County, Aksu, for targeted poverty alleviation for poverty-stricken families

Assistance to Qinghai and Tibet

Industry Support

- Qinghai Oriental Hualu New Energy Investment Co., Ltd. developed wind power resources of Qinghai, conducive to the comprehensive development of Tibetan areas of Qinghai Province
- CECEP Solar Energy Co., Ltd. invested in a 20-MW project in Qinghai area, which has been successfully combined to the grid
- CECEP Yingpan 50,000-Kilowatt Wind Power Plant Project of Songshantan of Tianzhu County of Wuwei City of Gansu Province was approved, which is the follow-up wind power plant of the million-kilowatt wind power base of Tianzhu County

Employment Support

- Qinghai Oriental Hualu New Energy Investment Co., Ltd. has built a team of 48 employees
- Northwest Region Qinghai branch of CECEP Solar Energy Co., Ltd. recruited ten local employees to promote local employment

Charity Support

- Qinghai Oriental Hualu New Energy Investment Co., Ltd. completed the targeted poverty alleviation project in Xinyuan village, Gahai Town, and appropriated RMB 20,000 to support local poverty alleviation projects
- CECEP Wind-power Corporation Co., Ltd. has sponsored CECEP Wind Power Cup Parent-child Sports Game at Qinghai Delingha Kindergarten for four times



Repay the Society with Sincerity



We actively promote green fashion and green life, and support subsidiaries to establish energysaving environmental publicity and education bases through platforms of wind power base, solar power base, waste disposal base, and sewage disposal base for popularizing low-carbon concepts and knowledge. In 2016, CECEP actively participated in a series of activities themed New SOEs & Green Life, to respond to the call of SASAC News Center, State Council, continued to sponsor the smog reducing project in Beijing-Tianjin-Hebei region, and improved the public's awareness of energy conservation and environmental protection.



Spreading Low-carbon Concepts to Build a Green Home

For the sake of popularizing solid waste disposal knowledge and environmental protection concept, CECEP has established an environmental education base to participate in environmental protection publicity and education activities. By the end of 2016, the environmental education base of China National Environmental Protection Group had undertaken a total of more than 1,000 environmental education activities and received more than 30,000 people from all walks of life and student groups, contributing to the promotion of energy conservation and environmental protection concept.

March 31

With the sponsorship of Chengdu Science and Technology Bureau, CECEP Renewable Energy (Chengdu) Corporation Co., Ltd. organized the popular science activity themed 2016 Chengdu One-day Tour in popular science base of Chengdu Xiangfu Municipal Solid Waste Incineration for Power Generation Project. And 500 teachers and students from Chengdu No. 7 Middle School took part in the popular science activity, to help children develop the habit of saving energy and protecting environment. May 20

CECEP Environmental-friendly Energy (Shijazhuang) Co., Ltd. carried out the activity of Performing Responsibility and Advocating Environmental Protection to Build a Green Homeland, to popularize environmental science among students through vivid explanation of the principles for the generation, classification, disposal, and incineration power generation of domestic waste as well as mobilization of everyone to jointly protect green home.

August 10 to 17

CECEP Renewable Energy (Chengdu) Corporation Co., Ltd. held the activity of 2016 Scientific and Technological Summer Camp - Realizing Dreams of Village Children. More than 200 excellent rural primary school students from remote mountainous areas visited the Company in batches, during which they broadened their horizons and gained much environmental knowledge.

"

The training improved our knowledge and helped us gain a deeper understanding of the concept that domestic waste can be turned into electricity and heat for human use. We make known our position that we will behave ourselves well to protect our shared living environment.

The student representative

Sponsored by the Publicity Department of Kaifeng City Demonstration Zone Working Committee, the Urban Management Bureau and the Education Bureau jointly organized a series of activities themed Hands in Hands for a Civilized City in Kaifeng Jinming Experimental Primary School. CECEP Renewable Energy (Kaifeng) Corporation Co., Ltd. served as the visiting spot of these activities and introduced environmental knowledge in detail for students, to understand the process how waste materials become things of value.



Department of Environmental Protection of Henan Province organized the June 5 Environment Day campaign, during which CECEP Renewable Energy (Kaifeng) Corporation Co., Ltd. was honored the Henan Province Environmental Education Base by leaders of the provincial government.







Voluntary Service for Better Life

Being enthusiastic about public good, CECEP has organized a variety of voluntary activities to provide assistance as much as possible for vulnerable groups. By the end of 2016, CECEP had donated more than RMB 42.12 million for public good projects, including RMB 30 million of industrial investment for state-owned enterprises in poverty-stricken areas.








| And the second se | | ~ 2. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Charitable Donations |
| | China National Environmental Protection Group | CECEP (Feicheng) Environmental Protection Energy Co., Ltd. assisted the development of the surrounding poor villages by encouraging villagers to recycle peanut seedlings and straw in their own field as biomass fuel and provided free picking machine and other processing equipment for them CECEP (Qinghuangdao) Environmental Protection Energy Co., Ltd. designated outstanding executives and workers to as targeted poverty alleviation group to settle in Shizhazi Village, Huangqi Town, Fengning Manchu Autonomous County, Chengde City The assisting group of Chengde Huanneng Thermal Power Co., Ltd. settled in Bagualing Village, Dayingzi Town, Chengde City |
| | General Water of China Co., Ltd. | General Water of China (Bengbu) Co., Ltd. conducted targeted poverty alleviation in Zhuanqiao Village, Wanfu Town and Wuyang Village, Tangji Town in Huanyuan City by investing RMB 300,000 in the construction of vegetable greenhouses and assisting 2 poor households by sending RMB 500 to each of them on Dragon Boat Festival and Mid-Autumn Festival respectively |
| | CECEP Wind-power Corporation Co., Ltd. | Qinghai Oriental Hualu New Energy Investment Co., Ltd. carried out targeted poverty alleviation in Xinyuan Village, Gahai Town, Delingha City, appropriated RMB 20,000 to support local poverty alleviation projects and sent gifts to two poor families |
| | The No.4 Metallurgical Construction Company of China Limited | Donated RMB 50,000 to aid the development of Fangjia Village of Sili Town and Liyua Village of Zhiguang Town, Guixi City Donated RMB 30,000 to aid the development of Zhiguang Village, Zhiguang Town, Guixi City. Donated RMB 13,100 in the Charitable Donation to Guixi activity to Civil Affairs Burear of Guixi |
| | CECEP Industry Development Co., Ltd. | Organized 20 poverty alleviation activities and donated RMB 80, 000 in total |
| A STATE | China GEO-Engineering Corporation | Lanzhou Engineering & Research Institute of Nonferrous Metallurgy Co., Ltd. donated RMB 80, 000 in targeted poverty alleviation projects to assist Nancha Village and Zhuchuan Village, Biyu Township, Tongwei County |





CSR Performance

Economic Performance

| Indicator | Unit | 2014 | 2015 | 2016 |
|----------------------------------------------------------------------------------------------------------|------------|---------|---------|---------|
| Year-on-year growth rate of total assets | % | 17.69 | 11.57 | 9.07 |
| Year-on-year growth rate of business income | % | 12.29 | -0.45 | 4.08 |
| Year-on-year growth rate of total profit | % | 15.23 | 10.77 | -15.28 |
| Year-on-year growth rate of net profit attributable to parent company | % | 95.65 | -29.39 | -140.63 |
| Year-on-year growth rate of EVA | % | 37.71 | -6.26 | -92.44 |
| Year-on-year growth rate of operating profit | % | -0.17 | 0.43 | 0.28 |
| Year-on-year growth rate of ROE (including minority interest) | % | 0.53 | -0.63 | -2.8 |
| Major scientific research platforms | / | 81 | 98 | 89 |
| All levels of technological innovation projects | / | 112 | 232 | 226 |
| National or provincial scientific technology projects CECEP participated in or led | / | 31 | 24 | 26 |
| Provincial or ministry-level technological achievements | / | 27 | 3 | 16 |
| New products developed by CECEP | / | 384 | 464 | 254 |
| Total new product sales revenue | RMB 10,000 | 992,575 | 313,097 | 812,647 |
| R&D input | RMB 10'000 | 73,200 | 77,131 | 84,283 |
| Proportion of R&D input in total business income | % | 1.49 | 2.3 | 1.29 |
| Patents CECEP applied | / | 309 | 436 | 494 |
| Patents CECEP licensed | / | 230 | 323 | 319 |
| National, industrial or local standards, the compiling of which has been participated in or led by CECEP | / | 27 | 15 | 3 |
| Newly launched projects | / | 40 | 36 | 48 |
| Newly launched projects of energy conservation | / | 14 | 5 | 12 |
| Newly launched projects of environmental protection | / | 9 | 8 | 15 |
| Newly launched projects of clean energy | / | 15 | 19 | 18 |
| Newly launched projects of comprehensive use of resources | / | 2 | 4 | 3 |
| Projects completed | / | 34 | 48 | 26 |
| Projects of energy conservation completed | / | 3 | 16 | 5 |
| Projects of environmental protection completed | / | 12 | 10 | 5 |
| Projects of clean energy completed | / | 17 | 19 | 12 |
| Projects of the comprehensive use of resources completed | / | 2 | 3 | 4 |
| Proportion of infrastructure projects with public tender nviting among all related projects | % | 97.8 | 99.7 | 96.97 |

Environmental Performance

| Indicator | Unit | 2014 | 2015 | 2016 |
|--------------------------------------------------------------------------|------------------------|-------------|-----------|-------------|
| Domestic drinking water production (water output) | 10,000 tons | 73,480.18 | 75,870 | 77,250.0265 |
| Domestic and industrial sewage disposal amount (sewage treatment amount) | 10,000 tons | 54,939.4677 | 60,218 | 66,488.47 |
| Solid waste disposal amount | 10,000 tons | 748.6591 | 673.57 | 868.4 |
| Hazardous waste disposal amount | 10,000 tons | 3 | 1.6181 | 3 |
| Smoke and gas disposal amount | 10,000 cubic meters | 14,506,231 | 2,653,791 | 11,482,763 |
| Reduced amount of COD emission | 10,000 tons | 12.6 | 12.58 | 14.6 |
| Reduced amount of exhaust gas emission | 10,000 tons | 162.3 | 173.5 | 386.92 |
| Electricity generated through wind power | 10,000 kWh | 264,802 | 321,229 | 364,215 |
| Electricity generated through solar power | 10,000 kWh | 118,282 | 161,759 | 208,000 |
| Power generated through biomasses (waste, straw, etc.) | 10,000 kWh | 196,962 | 213,823 | 257,236 |
| Power generated through excessive energy (excessive gas or heat) | 10,000 kWh | 212,637 | 130,501 | 139,312 |
| Power generated through green energy | 10,000 kWh | 92.3 | 98.50 | 98.25 |

Social Performance

| Indicator | Unit | 2014 | 2015 | 2016 |
|-----------------------------------------------------|------------|----------|--------------------|--------------------|
| Total employee population | / | 34,364 | 31,769 | 40,707 |
| Employees with doctoral degree | / | 24 | 79 | 31 |
| Employees with master degree | / | 288 | 832 | 276 |
| Employees with senior professional posts | / | 282 | 1096 | 260 |
| Scientific and technological employees | / | 2,479 | 2,561 | 2,067 |
| Signing rate of labor contract | % | 100 | 100 | 100 |
| Proportion of female employees | % | 20.59 | 43.71 ^① | 42.45 ^② |
| Proportion of female managers | % | 31.02 | 31.02 | 31.02 |
| Proportion of employees from minority ethnic groups | % | 3.96 | 4 | 4 |
| Average paid leave per capita | Day | 8.01 | 11 | 10 |
| Employees absorbed each year | / | 5,372 | 5,093 | 7,457 |
| Coverage of staff training | % | 100 | 100 | 100 |
| Total amount of social charitable donation | RMB 10,000 | 828.0909 | 432.51 | 4,212 |

1 Statistics derived from the 2015 data of the headquarters 2 Statistics derived from the 2016 data of the headquarters



2017 Outlook

Standing on a new starting point, CECEP may encounter new difficulties and challenges. As long as we remain true to our original mission, forge ahead in unity, and vigorously carry forward the spirit of "innovation, striving and dedication", our aim of becoming a top world-class energy conservation and environmental protection conglomerate can surely be realized. In 2017, CECEP will continue to practice the mission of "protecting the environment and saving resources to create a beautiful ecological environment for all", and make its own contribution to building a well-off society in an all-around way.

Protecting Resources for a Bright Future

Emphasize on main business and professional ability, uphold the principle of only doing what we should do, strengthen the support for businesses with comparative advantages, and aid the development of leading enterprises in related market segments

Comprehensively promote the construction of lawful state-owned enterprises, strengthen process control and delicacy management, and advance industry-finance integration

Realize 10.88% year-on-year increase of operating income, 10.05% year-on-year increase of total profit, and 69.73% year-on-year increase of economic value added

Seeking Constant Innovation through Concerted Efforts

Continue to develop standardization, as well as establish and improve the long-term mechanism for management and promotion

Increase R&D input in technological innovation, give play to the role of innovation as incentive and constraint, and cultivate new driving force for reform and development

Invest at least RMB 700 million in technology development to complete at least 100 scientific research projects, establish at least three new research and development institutions, and license at least 200 patents

Joint Efforts for Better Safety

Deepen the standardization of safety management

Implement work safety liability system and strengthen the construction of a dual risk prevention mechanism, i.e. risk prevention and control system and risk inspection and governance system

Advance the development of the safety management talent team

Speed up security informatization, promote innovation of safety management, and prevent all kinds of accidents



Concerted Efforts for the Common Ideal

Strengthen strategic cooperation with governments, educational research institutions, banks and enterprises to promote resource and results sharing

Establish and improve the supplier social responsibility management system to achieve shared growth with suppliers

Share with industrial peers the development results to promote the advancement of industry management and technological progress, and enhance industry sustainable development capacity

Develop at least five national and industrial standards

Cultivation of Talents

Value the growth of young employees, care for retired employees, and help employees with difficulties

Nurture a working environment favorable to talent growth, improve operating income per capita, and optimize profit ratio of labor costs

Introduce and cultivate four leading talents, guarantee that at lease 80% of the positions where talents are difficult to recruit are undertaken, and increase the total hours of staff training by more than 3%

Repay the Society with Sincerity

Promote the development of the Belt and Road Initiative and local operations to accelerate the balanced development of local economy, society and environment

Focus on targeted poverty alleviation projects via developing public good brandings

Vigorously promote volunteer activities to repay the society with sincerity and promote the development of science and education



Support for SDGs

| 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development | CECEP's Action Plan |
|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal 1: End poverty in all its forms everywhere | Conduct targeted poverty alleviation in Xinjiang, Tibet, and Qinghai to improve overall regiona poverty situation |
| Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture | Establish a number of intelligent agriculture bases, ecological agriculture bases, and agricultural assistance bases through agriculture and PV power generation complementary projects |
| Goal 3: Ensure healthy lives and promote well-being for all at all ages | Support rural health care infrastructure in targeted poor counties to improve the rural medical situation |
| Goal 4: Ensure inclusive and quality education for all and promote lifelong learning | Take education assistance as an important public good project to promote balanced development of education and provide equal education opportunities for students in remote areas via donations to Hope Primary School and establishment of scholarships |
| Goal 5: Achieve gender equality and empower all women and girls | Support the development of female employees by adhering to the salary system of equal pay for equal work; provide regular training and healthcare lectures for female employees; provide support and assistance to pregnant and breast-feeding female employees |
| Goal 6: Ensure access to water and sanitation for all | Include water resources management as one of the focuses of the Group's businesses and make continuous improvement of the local water environment by virtue of key technologies and equipment including biological deodorant technology within sewage treatment plants, efficient biological nitrogen removal technology, sludge crushing technology and biological fermentation technology |
| Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all | Promote the development of clean energy, increase the installed capacity of wind power and solar power, and optimize energy utilization and consumption structure |
| Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all | Actively employ local people and enhance their skills in overseas operations |
| Goal 9: Build resilient infrastructure, promote sustainable ndustrialization and foster innovation | Aiming at meeting the current and future technological demands of the national energy- saving and environmental protection industry, put more efforts on the research, application and promotion of key technologies to drive industry advancement and economic developmen through independent R&D, production-education-research institution cooperation and international exchanges, etc. |
| Goal 10: Reduce inequality within and among countries | Promote poverty alleviation and the sustainable development of economy, society and environment in targeted poor counties |
| Goal 11: Make cities inclusive, safe, resilient and sustainable | Promote the development of local science, education, culture and hygiene and improve local environment to enhance the local sustainable development capacity in overseas operations |
| Goal 12: Ensure sustainable consumption and production batterns | Establish energy conservation and environmental protection publicity bases to promote the concept of low-carbon society and popularize low-carbon knowledge |
| Goal 13: Take urgent action to combat climate change and its mpacts | Strengthen energy management, improve energy efficiency, promote industrial energy saving, building energy saving and development of green building, and reduce the emissions of CO ₂ and other greenhouse gases |
| Goal 14: Conserve and sustainably use the oceans, seas and marine resources | Vigorously promote new energy technologies to support coastal defense construction, protect marine ecology, and promote the development and utilization of renewable marine energy |
| Goal 15: Sustainably manage forests, combat desertification, nalt and reverse land degradation, halt biodiversity loss | Vigorously develop ecological restoration business by improving heavy metal governance and soil remediation; take biodiversity conservation as an important part of construction management in large-scale construction projects |
| Goal 16: Promote just, peaceful and inclusive societies | Regularly disclose financial and non-financial information for the enhancement of corporate transparency; further promote Party building and restrict corruption; Promote the construction of a harmonious enterprise by pooling the strength of the development of the Group |
| Goal 17: Revitalize the global partnership for sustainable Jevelopment | Collaborate with the government, enterprises, financial institutions, universities and international organizations to input and output environmental protection technologies for the establishment of long-term strategic cooperative relations and the development of |



Reporting Index

| Report Contents | CASS-CSR 3.0 Indicator System |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| About the Report | P1.1/P1.2/P1.3/P1.4/P2.1/P2. |
| Our Greetings | P3.1/P3.2/E2.1 |
| About CECEP | P4.1/P4. |
| CECEP Figures | P4.2/S2.30/S4.1 |
| CECEP, Always Be Around | P4.2/P4. |
| Strategy and Governance | P4.4/ P4.7/M1.1/M1.2/M1.3/S1.1/S1.2/S1.3/S1. |
| CSR Fulfillment | G1. |
| CSR Model | G2. |
| CSR Philosophy | G1. |
| CSR Promotion | G1.4 /G2.1/G2.3/G2.4/G2.5/G4.1/G4.2/G4.3/ G6. |
| CSR Communication | P2.2/P2.3/P5.1/G1.3/G2.2/G3.1/G5.1/G5.2/G5.3 G5.4/G5.5/G5.6/ G6.1/G6.2/G6.3/G6. |
| CSR Honors | P5. |
| Responsibility in Actions | P5. |
| Sowing the Seed of Hope by Targeted Poverty Alleviation | P5.1/S1.6/S1. |
| Mutual Assistance and Shared Harmony | P5.1/S1.6/S1.7/S2.27/S4.5/S4.6/S4.8/S4.1 |
| Protecting Resources for Sustainability | P5. |
| Resource Conservation for Efficient Utilization | E1.13/E2.1/E2.2/E2.1 |
| Environmental Protection for Blue Sky and Clean Water | E2.7/E2.8/E2.9/E2.10/E2.11/E2.12/E4.1/E4.3/E4.4/E3. |
| Recycling for Sustainable Development | E2.13/E2.14/E3.4/E3. |
| Clean Energy for Ecological World | E2.5/E2. |
| Seeking Constant Innovation through Concerted Efforts | P5. |
| Innovative Services for Quality Development | M2.1/M2.2/M2.3/M2.4/M2.5/M2.6/M2.13/M2.1 |
| Green Operation for Low-carbon Development | S4.1/S4.2/S4.3/E1.1/ E1.2/ E1.4/ E1.5/ E1.6/ E1.7/ E1.8 E1.10/ E1.11/ E1.12/ E2.3/ E2.4/E2.1 |

78

| Report Contents | CASS-CSR 3.0 Indicator System |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Management Improvement for Efficient Development | M3.5 |
| Innovation-driven Transformation and Development | E3.4/M2.7/M2.8/M2.9/M2.10/M2.11/M2.12 |
| Joint Efforts for Better Safety | P5.1 |
| Meticulous Safety Management | \$3.1 |
| Systematic Emergency Response System | S3.2 |
| Safety Culture in Mind and Action | S3.3/S3.4/S3.5/S3.6/S3.7/ G4.4 |
| Concerted Efforts for the Common Ideal | P5.1 |
| Strategic Cooperation for Common Development | M3.1/M3.5 |
| Responsible Procurement for Shared Value | G3.2/M3.2/M3.3/M3.4/M3.6/M3.7/M3.8/M3.9/M3.10M3.12/E3.1/E3.2 |
| Industrial Exchanges for Common Progress | M3.2/M3.3 |
| Cultivation of Talents | P5.1 |
| Enhanced Protection of Employees' Rights and Interests | P4.5/S2.1/S2.2/S2.3/S2.4/S2.5/S2.6/S2.7/S2.8/S2.9/S2.11/S2.12/S2.13/ S2.14/S2.15/S2.17/S2.18/S2.19/S2.20/S2.21/S2.22/S2.23/S2.31 |
| Better Development of Employees | \$2.24/\$2.25/\$2.26 |
| Employee Care for Better Career Development | \$2.27/\$2.28/\$2.29 |
| Repay the Society with Sincerity | P5.1 |
| Assisting Xinjiang and Tibet's Development for Shared Harmony | S1.6/S1.7/S1.8/S2.7/S4.4/S4.5 /S4.6 |
| Advocating Environmental Protection for Low-carbon Life | E1.6/E1.7/E1.8/E4.5 |
| Voluntary Service for Better Life | S4.9/S4.10//S4.12/S4.13/S4.14/E4.5 |
| | P4.5/P5.2/M1.3/M1.4/M1.5/M1.6/S2.1/S2.11/S2.13/ S2.14/S4.12/E2.8/E2.10/E2.12/E2.19 |
| Outlook 2017 | A1 /G1.4 |
| | АЗ |
| Reporting Index | A3 |
| | A2 |
| Feedback | P1.5/A4 |





Rating Report











Feedback

Dear reader,

Thanks for reading the Report.

We are looking forward to your comments and suggestions to help us improve work performance and adapt our next CSR report to your expectations.

| 1. Are you satisfied with the F | Report? | |
|----------------------------------|---------------------------|----------------------------------------------------------|
| □Very | □ Relatively | □ Acceptably |
| 2. Does the Report include al | l your concerns? | |
| □Very | □ Relatively | □ Acceptably |
| 3. Do you think the Report ref | lects CECEP's CSR-relate | ed work and impacts on stakeholders? |
| □Very | □ Relatively | □ Acceptably |
| 4. Can you easily find the info | rmation you need in the I | Report? |
| □Very | □ Relatively | □ Acceptably |
| 5. Is the layout satisfying to y | ou? | |
| □Very | □ Relatively | □ Acceptably |
| report release? | | CECEP's CSR-related tasks, CSR reporting preparation and |
| | | |
| Name: | Company/Ucci | upation: |
| Tel.: | Email: | Zip code: |
| Correspondence address: | | |
| Contact us: | | |
| Corporate Culture Dept. of CE | CEP | |
| Add.: Jieneng Mansion, No. 42 | 2 North Xizhimen Avenue | , Haidian District, Beijing (100082) |
| Contact person: Zhang Yang | | |
| E-mail: zhangyang@cecep.cr | ١ | |
| Tel.: 010-62248552 | | |

 Δ





Thanks for reading the Report. You can select your favorite color to press your fingerprint on the front of the bookmark and sign it to draw your own tree of responsibility bookmark. Let us work together to keep the tree of responsibility evergreen! With firm confidence and determination in the implementation of this sacred mission, CECEP will work with you to Create a Shared Blue Sky.





China Energy Conservation and Environmental Protection Group

Add.: No. 42 North Xizhimen Avenue, Haidian District, Beijing(100082) Website: www.cecep.cn