



中石化煉化工程（集團）股份有限公司
SINOPEC ENGINEERING (GROUP) CO., LTD.

2015

Sustainable Development Report



Introduction

Dear readers:

In order to better report the activities of SINOPEC Engineering (Group) Co., Ltd. (“SEG” , the “Company” or “We”) in CSR (Corporate Social Responsibilities) and sustainable development, as well as present good image of the Company to the shareholders and other stakeholders, we prepared the 2015 Sustainable Development Report. Centering on the target of becoming a world-class engineering company, the report focuses on SEG’ s development mode, technological innovation strategy and major CSR tasks, and consists of four aspects, including safety assurance, value creation, commitment to environmental protection and win-win realization, which systematically introduce SEG's sustainable development policy, goal, execution measures and performance.

The report aimed at showcasing SEG’ s efforts in actively implement its four major strategies in 2015, which are “energy and chemical-oriented, innovation-driven, globalization-targeted and value-focused” , We will stick to leading market expand by innovation, strengthening competitive capability by innovation, and promoting value upgrade by innovation, keep developing more advanced technologies in energy saving and environmental protection and actively burden responsibilities to make the energy and chemical process cleaner, more efficient and more secure. You will see in the report what we have done in 2015 to promote sustainable development and achievements we have made towards sustainable development objective. We will also share some cases to demonstrate the efforts that we made during the projects construction to reduce environmental footprint by constantly improving technologies. Moreover, the report will display SEG’ s good corporate image that we focus on returning our shareholders, serving our customers, caring for our employees and working with our partners to benefit the communities by undertaking economic responsibilities for a green and low-carbon development.

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Chairman's Speech



Chairman
Mr. Zhang Jianhua

Engineering a Better World

Dear Friends:

Thank you for your trust and care. In 2015, SEG won great achievements despite a challenging market environment. On behalf of the Board and all the staff, I express my heartfelt gratitude to you.

Looking back to 2015, SEG, in adhering to our core values, i.e. people-oriented, integrity, tolerance, professional enthusiasm, innovation and win-win, and guided by the strategic thinking, i.e., “energy and chemical-oriented, innovation-driven, globalization-targeted and value-focused”, made a continuous efforts to restructure our businesses and integrate all resources available in a bid to improve our core competitiveness in “providing one-stop integrated solutions” and form a synergy of all businesses. In terms of business restructuring, we endeavored to close down and replace outdated capacity, drive to improve quality of refined oil products and explore new business opportunities in the energy saving and environmental protection sector. In 2015, the new contracts in the environmental sector amount to approximately RMB1.124 billion, the new contracts in the energy saving sector amount to approximately RMB213 million; in terms of market development, to quicken the extension of business chain, we are actively exploring new business opportunities and manage and balance the two markets domestically and internationally. Relying on the advantages of operating as a group, we have made outstanding achievements in striving to build a modern enterprise with sound decision-making, efficient management practices and flexible business system. In 2015, dragged by a complex micro-economic environment both domestically and internationally, and tough market environment for the refinery and chemical engineering sectors, we achieved a revenue of RMB 45,498 billion, declining by 7.8% on a year-on-year basis; In 2015 the value of new contracts concluded by the company hit RMB 52,676 billion, while that for contracts yet to be closed out by end of 2015 hit RMB 111,100 billion, in increase by 6.9%. A total amount of RMB 220,000 was donated.

Looking into a new year where we are confronting tougher challenges, in 2016, SEG will push for more profound business restructuring and we will make endeavors to improve business performance and bring in more income from traditional businesses while also staying focused on fostering and developing new businesses; deepen reforms in full swing, further refine business systems and institutional mechanism, and optimize resources to raise business efficiency. Greater importance will be given to strategic planning and management and to value management; develop businesses in energy saving and environmental protection sectors and explore opportunities at emerging fields, contribute our own part to the sustainable development of the industry; continue emphasize the return to our shareholders, be wholly committed to the corporate social responsibilities for a sustainable development both economically and socially.

My shareholder friends, we wish sincerely you to stay and work hand-in-hand with us to create a better future for both you and us!

Mr. Zhang Jianhua
Chairman

Beijing, China Mar 18, 2016

01

About Us

SEG has made significant contributions to the efforts of Sinopec Group in propelling petrochemical technologies and engineering services, and have provided strong support for the development of the country's petrochemical industry.





1.1 Company profile

In 2012, SINOPEC Engineering (Group) Co., Ltd. was restructured as China's largest and most long-standing company with the best execution in refinery, petrochemicals and new coal-chemical industry in China. After the restructuring, SEG has become a major integrated engineering service provider and technology licensor controlled by Sinopec Group serving domestic and international chemical engineering markets. We enjoy a complete business chain ranging from oil refining, petrochemical, coal-based chemical engineering to natural gas processing, storage and transportation, which is capable of offering services in diversified areas including feasibility studies, technology consultation, technology licensing, engineering consultation, engineering design, procurement, equipment manufacture, construction and project management as well as EPC services.

SEG takes a leading role on the domestic market and is decently competitive as well on the international engineering market thanks to its strong capability in executing large and complicated oil refining, petrochemical and coal-based chemical projects. Moody assigned a first-time issuer rating of A2 to SEG, which is the one of the highest ratings for engineering companies in the world, signifying strong market recognition of SEG.

Developing and owning technologies in the energy and chemical fields is one of the distinctive features that differentiate SEG from our domestic and international competitors. We own or co-own a bunch of proprietary technologies in the oil refining, ethylene and down-stream business, aromatics and coal-based

chemical fields. SEG has Grade-A certification for comprehensive engineering design and petrochemical industry engineering design, and has the capability for simultaneous engineering design of multiple 10 million tpa-class oil refining and million tpa-class integrated chemical projects; top grade certification for EPC of petrochemical projects and essential construction certification, and we have distinguished professional strengths in lifting, transportation and erection of large pieces of equipment, erection of large tanks, installation and commissioning of large automation DCS system as well as welding of special materials. We also proudly boast the capability and business capacity to execute simultaneously over 20 large EPC projects and complete RMB 100 billion worth of engineering design.

In adhering to our core values, which are people-oriented, integrity, tolerance, professional enthusiasm, innovation and win-win, and guided by our strategies which are "energy and petrochemical-oriented, innovation-driven, globalization-targeted and value-focused", we strive to maintain and enhance our competitive strengths, make constant efforts to optimize our business structure, quicken the extension of our business chain and actively explore new business opportunities. Relying on the advantages of operating as a corporate group, we are able to coordinate and balance our domestic and overseas markets, and make outstanding achievements in striving to build a modern enterprise with sound decision-making, efficient management practices and flexible business system.





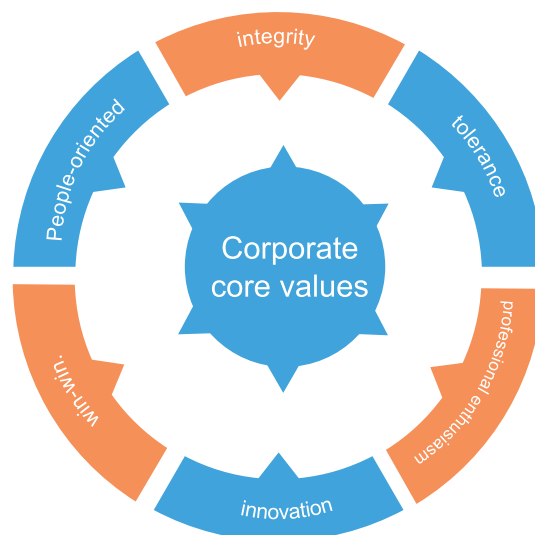
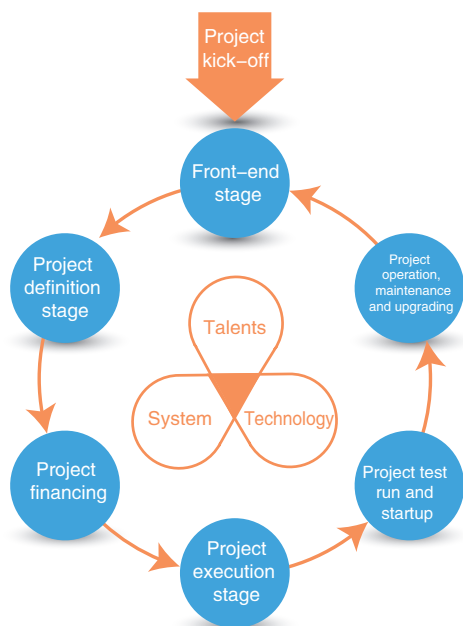
1.2 Business philosophy

Corporate core values:

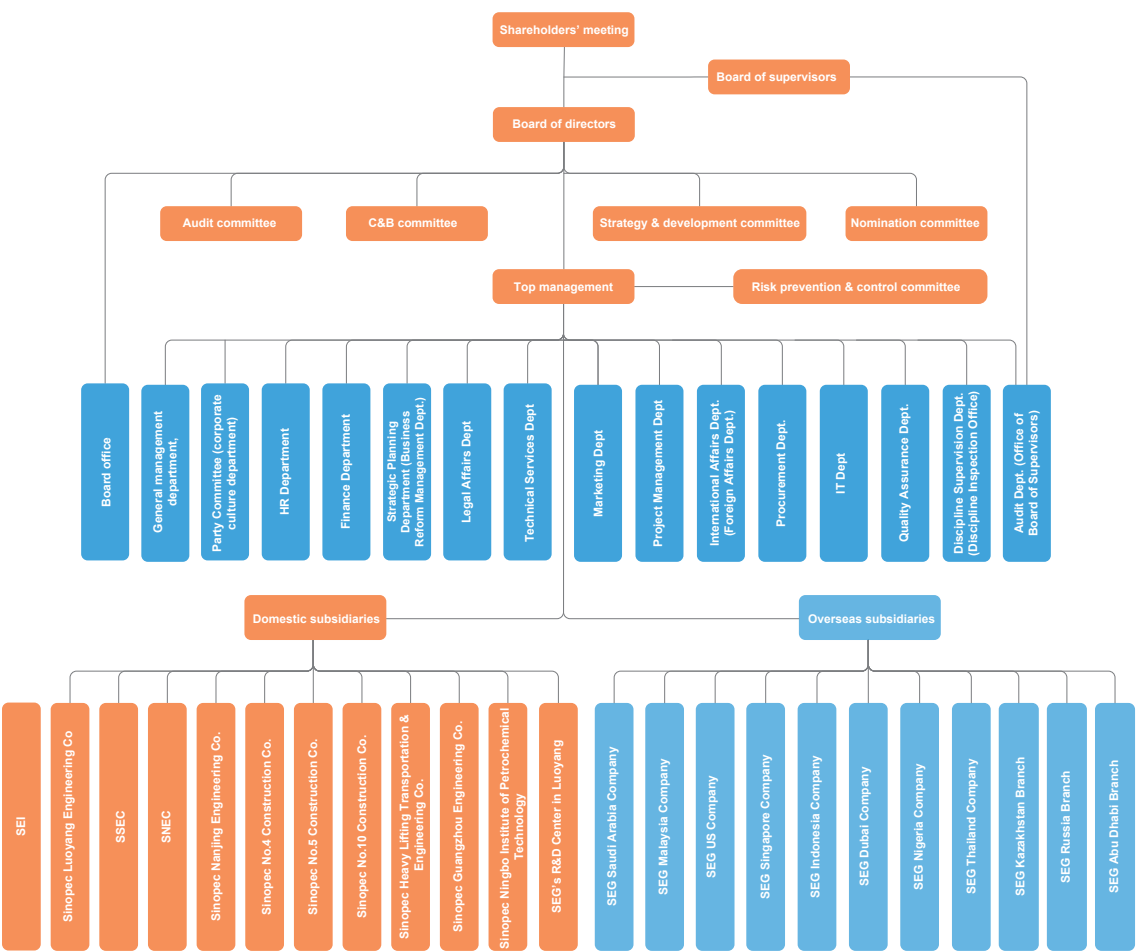
People-oriented, integrity, tolerance, professional enthusiasm, innovation and win-win.

Corporate vision and mission:

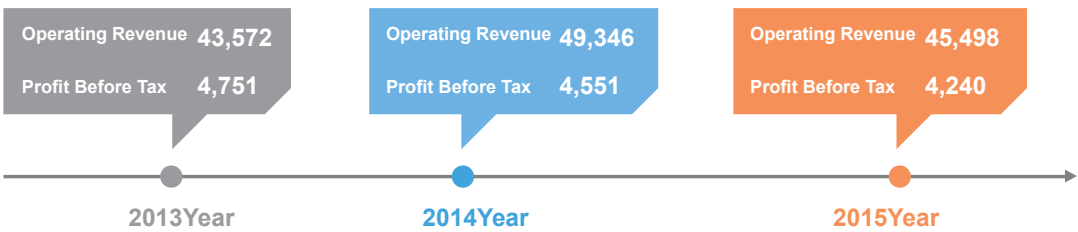
Under the business vision to “build a world-class engineering company”, SEG is endeavored to deepen the implementation of our development strategies which are “energy and chemical-oriented, innovation-driven, globalization-targeted and value-focused”, and strengthen our core competitiveness in providing one-stop integrated solutions in a bid to accomplish our corporate mission of “SINOPEC fights for the a quality of life; builds SEG as a better place and shares it with you”.



1.3 Organizational chart



1.4 Key business indicators (unit: RMB mn)



1.5 External reviews

In 2015, SEG ranked the 40th in the world among the Top 250 Global Contractors ranked by ENR and the 36th in the world among the Top 150 Global Engineering Design Firms ranked by The Engineering News-Record ("ENR").



02

Corporate Governance

SEG is devoted to building SEG Group into a world-class engineering company, for which sound corporate governance is a significant conerstone.





2.1 Improving management structure

SEG is devoted to building SEG Group into a world-class engineering company, for which sound corporate governance is a significant cornerstone. Sustained improvement of corporate governance structure will provide a solid basis for our efforts towards the target. We will continuously upgrade our level of corporate governance, regulate our operations, intensify internal control and risk management and improve the corporate capability of scientific decision-making and risk mitigation.



To improve our corporate governance level, the Company strictly standardized corporate governance based on the working rules, systems and norms such as the Rules of Procedure of the Shareholders Meeting, the Rules of Procedure of the Board and Rules of Procedure of the Supervisory Committee. We elaborately and efficiently convened shareholders meetings and board meetings where terms of office of directors and supervisors are successfully replaced and appointment of executives is done. All directors, supervisors and executives are required to take trainings and take their duties seriously. Independent directors have taken active parts in management activities by providing business advices as to the company's growth through communications with chairman of the Board, management team, external auditors and internal audit department, and conducting surveys in SEG's affiliated companies.

2.2 Meetings convened

In 2015 one session of annual general meeting, two sessions of class meetings, three sessions of extraordinary general meetings, four sessions of Board meetings, one session of the nomination committee meeting, one session of the remuneration committee meeting, one session of the strategy and development committee meeting and two sessions of audit committee meetings were organized in an elaborate manner, where a total of 72 proposals were considered.

1 one session of annual general meeting

2 two sessions of class meetings

3 three sessions of extraordinary general meetings

4 four sessions of Board meetings

1 one session of the nomination committee meeting

1 one session of the remuneration committee meeting

1 one session of the strategy and development committee meeting

2 two sessions of audit committee meetings were organized in an elaborate manner

72 where a total of 72 proposals were considered

2.3 Strict information disclosure

SEG highly values information disclosure, and emphasizes the communication with investors. We will stay open to communicate with investors and make sure all our business operations are transparent for the interests of our shareholders and investors.

2.4 Stakeholders

We put high stress on communications with our stakeholders, listen attentively to their voice through an open and transparent communication mechanism and take into account their opinions when formulating and executing strategy, policy and plan of the company. We convey our understanding of sustainable development through visits, discussions and other means of effective communication. Trust and support from our stakeholders has become an inexhaustible force to drive our sustainable development. Our stakeholders include government, employees, shareholders, customers, business partners, suppliers and subcontractors, financial institutions, media, communities, the public and non-governmental organizations. We hope to continue improve our communication and cooperation with our stakeholders to jointly push forward the harmonious development of economy, environment and the society.

In 2015, to ensure continuity and stability of the corporate policy governing dividend distribution and protect interests of shareholders in a down-to-earth way, SEG made amendments to the Articles of Association aiming to further optimize its dividend distribution policy. To balance shareholder's returns



and future business growth, in 2015 the Board planned to pay dividends in the amount of RMB 1.315 billion in cash. Based on 4.428 billion shares, being the total share capital of the Company as at 31 December 2015, the final dividend of RMB 0.297 (inclusive of applicable tax) per share to be payable to all shareholders.

2.5 Improve internal control system

Internal control

SEG has put in place an internal control system that complies with codes of conducts for listed companies. The system covers 44 business processes in 23 major categories, including internal environment, risk evaluation, information exchange and internal supervision at the corporate level as well as capital expenditure & financing, procurement, production operations, assets management, sales activities, research and development, project sub-contracting, business guarantee, outsourcing, financial report, comprehensive budgeting, legal affairs management, related transactions management, tax management, HR management, HSE management, quality management, information resource management, IT system management, information disclosure, audit management, business reforms and management, foreign affairs administration and administration of overseas affiliates, etc.



Legal compliance

We have always taken “operation in accordance with the law” as the lifeline of our sustainable development. With the goal of “ensuring lawful operation and corporate governance and operating in good faith” and the guarantee of improving lawful operation and risk management, we ensure compliance with laws and regulations and provide robust legal support and guarantee for building a world-class engineering company.

In 2015, SEG organized extensive law education workshops in an effort to operate by law. We organized management teams to learn CPC Central Committee’s Resolution on a Number of Major Issues Regarding Comprehensive Promotion of Ruling by Law, and watched the interpretational videos about Major Issues Regarding Comprehensive Promotion of Ruling by Law – Understanding from Jurisprudence Perspective the 4th Plenary Session of the 18th CPC Central Committee; we prepared and distributed reading materials for management teams with regard to Operate by Law and Conduct Businesses in Compliance with Laws; promoted a series of laws and regulations including Environment Protection Laws and Laws on Work Safety in a bid to raise legal awareness among all employees and mitigate operation risks. In 2015 we were honored the “outstanding company in law education” by Sinopec Group.

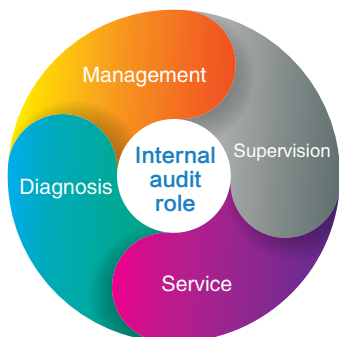


Legal compliance is the lifeline of a listed company. We have sound compliance management policies and well-structured institutions which clearly state that the Board is the highest decision making organization and the President is the chief person accountable for compliance management..

We have paid close attention to the requirements of capital market and regulatory environmental changes, streamlined our internal control processes and management systems, and built a long-term anti-money laundering, anti-commercial bribery mechanism. We have aggressively launched a comprehensive compliance culture construction and strived to create a corporate culture that is recognized by the employees, pursued by the managers, approved by the regulators and trusted by the investors.

Internal audit

Aiming at “preventing risks, enhancing management and adding values”, based on the auditing concept of “management as the starting point”, “health checkup”, and “risk warning”, regular audit activities were carried out by giving play to its “management, diagnosis, supervision and service” roles around the center of operation management and project management by innovating audit method and integrate current audit resources. In addition, the Company strengthened the pre-audit, mid-audit and post-audit activities. Special audits were carried out in the areas of implementation of growth strategies, allocation of resources, risk control and compliance to push for continuous improvement of management performance and improvement of risk resistance and market competitiveness towards a healthy and sustainable development.



Anti-Corruption

SEG and its affiliates have organized 362 anti-corruption educational activities in 2015, with a total of 35,632 participants, among which 6,833 people have signed the Letter of Commitment for Integrity.



 **362**
 **35632**
 **6833**

2.6 Consolidate management fundamentals

In carrying out the activities to raise management performance, steps were taken to accelerate business restructuring and upgrading. As a result, a substantial improvement in fundamental management was seen.

Objectives of the activities: consolidate and strengthen fundamentals, control risks, conduct fine management, minimize costs and improve efficiency, restructure and upgrade, to maintain and add values; be better and stronger and develop in a scientific way.

6 combinations

combination of self-learning and learning from others, combination of individual breakthrough and comprehensive improvement, combination of strengthening corporate governance and management innovation, combination of strengthening management and deepening reforms; combination of benchmarking management and pursuing for excellence, and combination of management improvement and routine management.

10 improvements

ability to make scientific decision, ability to cut back costs and improve efficiency, ability to integrate resources, ability to develop markets, ability to manage projects, ability to make innovations, ability to prevent and mitigate risks, ability to cultivate talents, ability to coordinate the relationship between the Party and the general public and ability to anti-corruption.

14 special areas

management of systems and institutional mechanisms, comprehensive risk management, HR management, technology innovation management, operations management, project management, work safety and quality management, materials and equipment procurement management, investment decision management, comprehensive budgeting management, legal compliance management, information application management, systemic Party construction management and anti-corruption management.

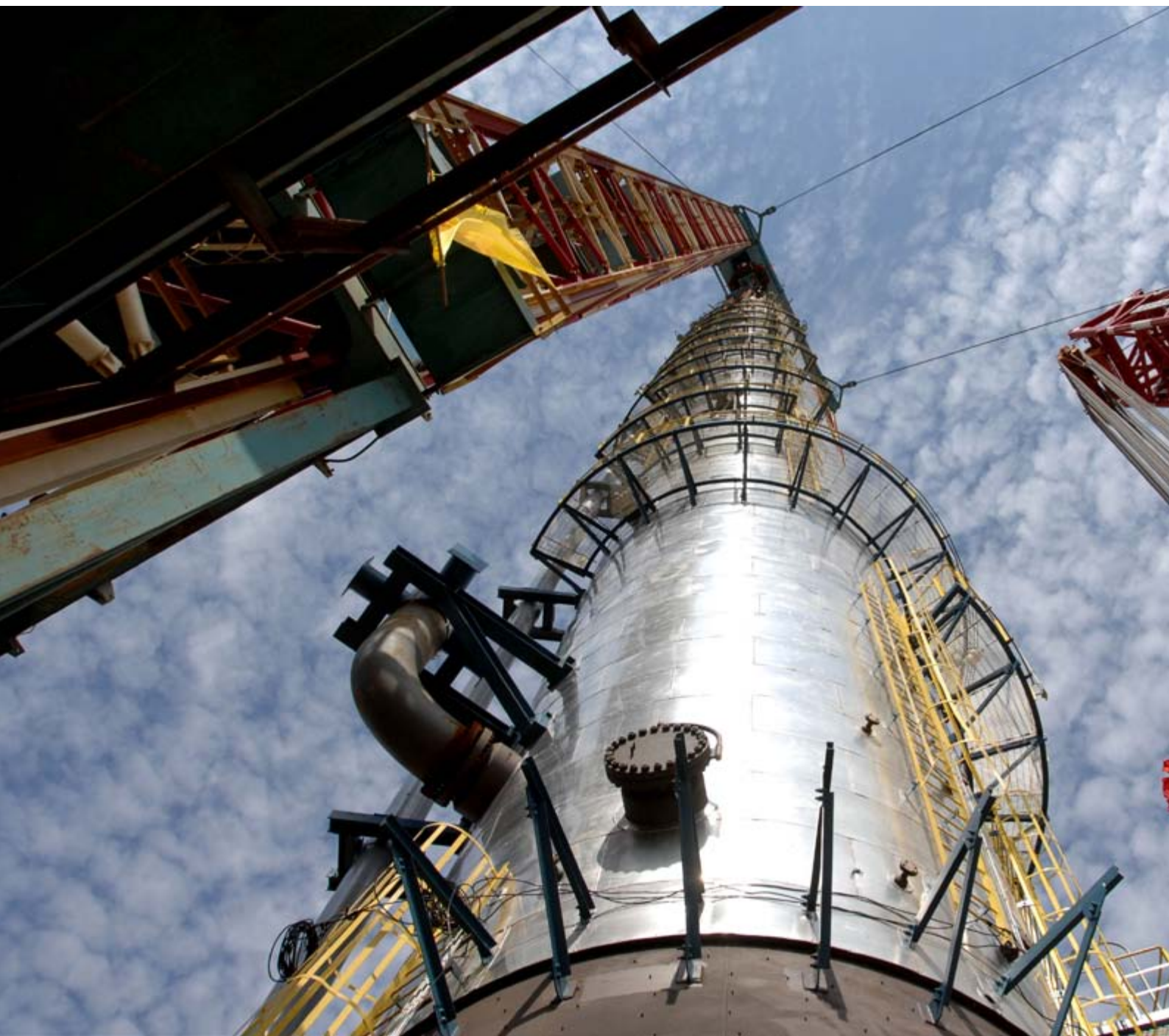
03

CSR Management

Corporate social responsibility remained as one of the business focuses of SEG in 2015. Serious work has been done in promoting the awareness of CSR throughout the entire system.









3.1 Refine CSR management system

In 2015, led by SEG CSR management team, SEG and all affiliates performed their CSR duties in a comprehensive manner. By carrying out extensive discussions on CSR performance appraisal indicators and benchmarking with outstanding enterprises, we sought to integrate CSR into business strategy planning, business operations and management, corporate culture and brand establishment, which advanced a comprehensive CSR implementation plan.

3.2 Enhance CSR communications

Internal and external CSR communication is an important part of CSR activities in SEG. Constant efforts were made to improve communication channels to enable local governments as well as our employees, clients, partners and the general public to understand how we perform our social responsibilities. We enhanced both internal and external communications by preparing the CSR report, further improving our official website and coverage at a number of media like the Xinhua News Agency and China Petrochemical News. In the meantime, the Company took an active part in external communications and exchanges in order to understand and be understood better, and learn CSR management theories and practices.





Work Safety Assurance

Safety remains the Company's "lifeline" for sustainable and healthy development. We work unswervingly under the fundamental guidelines of safety first and quality first to make sure all projects are under effective control. Assurance of project safety throughout its life circle by implementing engineering quality control is a common requirement imposed by stakeholders and the society on us, and is also SEG's top priority in fulfilling our corporate social responsibilities.







4.1 Work safety culture

In order to stay highly alert in safety control, we established a sophisticated quality assurance system to embed the consciousness of safety to all physical activities. All employees are required to take safety trainings and are required to take jobs with necessary permits; the awareness of safety, for example through project quality assurance oath-taking meetings and workshops, was reiterated repeatedly in actual work practices. We also organized “two ONEs” events, i.e., members of two levels of the leadership team take part in “ONE” HSSE (Healthy, Safety, Security, Environment) event and carry out “ONE” HSSE inspection. As a matter of fact, 8 HSSE checks were conducted all together. Overall-factor tracking, administration and control were implemented at various levels throughout the entire process to assure engineering quality and safety.



4.2 Safety management system

With overseas business growing, SEG's HSE management is being transferred step to step to HSSE management. To adapt to this transition, we amended responsibilities and duties of the Emergency Response Command Centre and HSE management committee to make sure these responsibilities get performed. We established a closed-loop management system to include risk assessment, emergency response, education and training as well as supervision, which has provided a strong support for successful execution of overseas projects.



4.3 Overseas public security management

In 2015, 23 EPC contracts were being executed in 6 countries. Currently, work safety campaign was generally going well with an accumulative 47 million safety labour-hours, and projects are in progress with minimum disturbance. The leadership team has taken the opportunity of visits to overseas offices to check works done in areas of public security, safety, occupational hygiene and environment protection, and in total of 12 HSSE observations were made; safety inspections were carried out at all subsidiaries; as a result, 6,311 items were identified and 5,960 items were addressed; 24 risk assessment reports on overseas public security and 8 emergency response plans were reviewed; SEG and its subsidiaries organized 1,234 people to take trainings on overseas public security, organized 5,612 people to take pre-mobilization trainings on overseas public security, 10,138 people to take mobilization trainings, 40,413 people to take special trainings and 2,075 people to take qualification trainings. 7 emergency response drills were organized at overseas subsidiaries; 343 vehicles were in use with a safety record of 4.28 million kilometers travel distance and zero accident. Amid the social unrest in Yemen and mass conflicts happened in Kazakhstan, we gave 15 public security risk warnings in a bid to further make sure our people working overseas are safe.



4.4 Tremendous efforts in work safety

Importance was given to work safety while quality safety was assured. In 2015, SEG worked hard to make sure each and every employee is held accountable for his/her work. Great efforts were made to oversee how work is done and to make sure front-line operators work safely. With a focus on work safety education, we developed standard operation procedures for work safety; we set up a work safety procedure compliance review center, which developed appraisal and rating criteria. Group-wide promotion of such criteria, trial review of work safety performance, application and formal review of some affiliates were carried out this year. A number of activities and events such as Work Safety Month and Work Safety Inspection were organized. On the basis of refining domestic project supervising system, we started to develop and set up a supervising system for overseas projects in an aim to boost higher work safety performance at SEG. Work safety and quality was generally under control in 2015 with an accumulative 254 million safety labour-hours having been worked with zero fatality.



05

Creation of Value

In 2015, despite the complicated situations and difficulties encountered in the process of reform and economic transition, senior managers of SEG, led all employees of the company in coping calmly with the challenges facing them. By focusing on the target established early in the year and the overall annual planning, SEG leaders and its employees worked hard to highlight its core capability and upgrade the baseline management. Finally, they surmounted the difficulties facing them in maintaining business development in the company and completed in an all-around way various tasks for the year as expected.







5.1 Steady business development

Project progress under control

Since the Company was listed in 2013, apart from its traditional business for refining and petrochemicals, the Company also made great progress in promoting its business for CTC (coal to chemical), clean energy and LNG etc. By relying upon the key construction projects and programs for tackling technical issues launched by the country and Sinopec Group, the Company completed satisfactorily the engineering design, EPC and construction for projects including Yuanba NG purification plant, modification of crude oils in Tahe, S-Zorb project group, flue gas desulfurisation and denitrification project group, aromatics plant in Hainan, LNG project group (Shandong, Tianjin and Guangxi), EO/EG for FREP and intensive coal processing in Zhongtian Hechuang, etc. The above projects were performed safely with their quality kept effectively under control. 14 Programs for tackling key technical issues and commercialization thereof for key projects including the 800KTPA ethylene complex in Wuhan, 600KTPA aromatics plant in Hainan, 2 million T/A liquid phase diesel recycle hydrogenation in Zhanjiang, technology for SE Oriental furnace and 600KTPA continuous counter-current reforming plant in Jinan in Sinopec were completed.

Redoubled energy efficiency and environmental-friendly development through technical innovation

Sustained technical innovation is an important means to promote environmental-friendly development. We have made efforts to redouble the energy efficiency through all-around research and development in environmental protection:

Pilot test study for wastewater treatment in cellulosic ethanol plant and comprehensive study on sewage treatment for CTC process, aiming to promote environmental-friendly development by using new technology;

Improvement of the existing living environment through technical innovation programs including construction of platform for soil restoration and optimization for integrated thermal desorption technology and technology for integrated plasma-mercury and particulate removal through membrane catalysis, etc;

Sustainable exploration for development and application of green energies, including bench experiment program for liquid fuel generation via biomass catalysis, development of integrated technology for dry fermentation treatment of domestic refuses and production of biogas.

Strategic breakthrough made in highly efficient packaged technology for environmental-friendly aromatics

As one of the materials forming foundation of the chemical industry, aromatics are widely used to manufacture synthetic materials and in fields such as pharmaceutical, national defense, farm chemicals and building materials, etc. Para-xylene is one of the aromatic products mostly consumed by people and closely related with their daily life.

SEG's involvement in engineering process of the highly efficient packaged technology for environmental-friendly aromatics renders China the 3rd country in possession of the technology in the world, which is innovative in the following five aspects:

Initiator for new and environmental-friendly process for raw material refining, where chemical reaction takes the place of physical absorption, the life span of refining agents extended 40-60 times and emission of solid wastes reduced by 98% through theoretical innovation;

Initiator for new type of molecular sieve materials for high-efficient conversion and separation of aromatics, where the rate of heavy aromatics increased by 70%-80% while the availability of resources and efficiency for absorption and separation increased by 5% and 10%, respectively;

Innovative methods for control are integrated to realize intelligent control. Rapid control for large flow changes in short time is accomplished and magnitude of pressure fluctuation in absorber drops considerably to ensure long-term, intrinsically safe, highly efficient and accurate operation of the plant.

Initiator of highly integrated energy process for



aromatics complex, where historic breakthrough was made in plant operation by shift from external power supply to outbound power transmission. The integrated energy consumption per unit of product was decreased by 28%.

Chinese creation" is realized for key equipment via innovation in design methodology and manufacturing process. Single chamber aromatics furnace with biggest capacity in the world and plate type aromatics rectifier with multiple overflows are manufactured through innovative design. Proprietary equipment for absorber grating with new structure was developed among others to enhance remarkably uniformity of fluid mixing and distribution.

The highly efficient and environmentally friendly packaged technology for aromatics was awarded the special award for National Technological Progress.

Sound business operation in the international market

Currently, the Company is performing 22 contracts in six foreign countries, including seven for EPC, two for P+C, twelve for construction and one for design with the total contractual value of US\$8.079 billion. There are 17,189 people engaged in the project management and the operation in foreign countries, including 1,635 people from SEG, 7,217 people employed and subcontracted domestically, and 8,337 people employed in the overseas and subcontracted locally. The number of safety labour-hours accomplished in 2015 was in total of 47 million .



5.2 Tightened management and control

Sustainably intensified guiding role for strategic plan

Intensified guiding role for strategic plans: The corporate orientation of development for the five years to come was set through development of the company's 13th five-year development plan. The plan was also used to define scope of the corporate business and strategy for marketing, direct its resource allocation and establish the corporate strategy and measures for development. In the meantime, the target and orientation of corporate development were adjusted timely by combining with the annual overall planning to adapt to the entire macro-environment and industrial development. A strategic management system covering and connecting horizontally and longitudinally various respects including long-term strategy, business planning, plan, investment budget, business operation and performance assessment has set up. The mechanism for strategy compliance and execution oversight was optimized to form a strategic evaluation system by combining with performance assessment. Intensified efforts were made to render further strategic instructions on subsidiaries and development of their own strategy execution plan. The home office's positioning as "Four Major Centers" was further consolidated and diversified efforts were made for strategic popularization thereof.



The pace for in-house professional integration was sped up

The company is at the stage for its resource optimization as guided by its "Three-step Strategy", i.e., reorganization and listing, resource optimization and being in line with the international standards. To speed up optimization and integration for its in-house resources, the company took professional reorganization as breakthrough and promoted successfully the re-organization and reform for its lifting and transportation business and R&D center.

1. Professional integration for the lifting and transportation business was carried out to promote its substantialized operation. Stage-wise objectives set by the company have accomplished and assets transfer completed as per the executive scheme for reorganization and reform. Now staff transfer and admission are in progress.

2. Efforts were made to promote substantialized operation of SEG R&D Center. SEG's R&D Center in Luoyang was officially set up and managed as a subsidiary according to the executive scheme for reorganization and reform established. By end of 2015, various reforms were carried out successfully.

3. Reform of the company in Saudi Arabian was promoted. To optimize and integrate the corporate resources in Saudi Arabia, reduce costs for business operation and upgrade the company's competitiveness, the company set up a new SEG (Saudi Arabia) Company and defined its function and positioning.

4. Efforts were made to promote reform and development of the manufacturing business. The organizational structure and operation system inside of the manufacturing sector were optimized and adjusted to remedy its loss in the past successive years and status of poor operation.

5. The construction business was promoted for transformational development. To seek professional, high-end oriented and differentiated development, a general way of thinking was preliminarily established through investigation, whereby special superiority in business operation will be cultivated, the existing businesses will be basically maintained and development of increased businesses will be differentiated.

6. The platform to support corporate service will be provided. Several supporting centers for providing uniform, shared, highly efficient and coordinated services will be built based upon the requirements for functional positioning of the four major centers in the corporate home office and resources available to the company. To accomplish the above target, some front-end activities were performed in 2015.



More vigorous efforts made to improve operational management and control

In market exploration, customers were focused to ensure the exploration is quality and benefit driven. Intensified efforts were made to improve the consciousness and competency in service and front-end consultancy and service. The cultivation for market was carried out initiatively so as to create more value to customers by closely combining owner's demand with enterprise superiority. While maintaining the traditional business, strategic businesses were laid out actively to make the middle- and high-end business and special business stronger, provide new points for business growth and explore new marketplace for development.

In project execution, the mode of fined management is promoted to intensify cost management. Full play was given to the advantage in design, procurement, manufacturing and complete industry chain for construction to better interface integration. Resources were optimized through design optimization and more closer interfacing between design and procurement, manufacturing and construction. High stress was put on main cost elements including labor, machinery and material, etc. to tighten management for procurement and subcontracting and administrative expenditures. Project's full-life span management was intensified to tap out potential for benefits and reduce costs.

Enhanced supplier management

Taking "Integrated Management and Centralized Control" as guideline, the company focuses on building and construction of supply chains to improve its top level design in its supplier management and has set up optimized system for supplier management and for supplier assessment. It practices a monthly reporting system for supplier's default. Suppliers are classified as per their annual assessment, where the process for supplier's admission, product catalogue and IT management are optimized as per the result of assessment to ensure improvement and optimization thereof. Platform for supplier management system has been provided to realize network-based management for suppliers in the world. The company established close ties with various levels of suppliers so as to win for all. It focuses on cultivation of and open communication with its strategic suppliers. To respond positively to the state's "Go Out" strategy, the company has, by making use of its platform for international business, rendered its supports and instructions in guiding the outstanding domestic network suppliers to enhance their competitiveness in conducting business in the international market and participate in the competition in international market. While making its suppliers stronger, the company also enhanced its capability in optimized allocation of resources in the world.

5.3 Scientific innovation and international business operation

Smooth progress made in scientific innovations

Construction of science and technology system was further optimized and the framework for technological system has been established basically with tasks for scientific research carried out orderly. In the year past, an ethylene complex of world-scale was built in Wuhan and Aromatic unit in Hainan by relying upon self-owned technology. Processing capacity of the ethylene complex in Fujian, Shanghai Secco was expanded with their size and Chinese content maximized to the extent technically allowed. Construction for modern refineries for processing sulfur- and acid-containing petroleum including those in Hainan (8 million t/a), Qingdao (10 million t/a) and Huizhou (12 million t/a) as well as for integrated refining and chemical plants and a series of quality upgrading projects for oil product in Zhenhai, Tianjin, Fujian and Maoming was completed. The company took the lead in the world in fields such as hydrogenation, reforming, ethylene and aromatics etc. It has made breakthroughs for technical innovations in alternative oil resources and won a place in the sector. Besides, it also promoted technically the commercialization process for methanol to olefin, NG purification, coal to EG, coal gasification and biofuels etc.

Patents:

The Company completed 460 patent applications (189 patents for invention, accounting for 41.1% of the total) and 416 authorised patents (174 patents for invention, accounting for 41.8% of the total), where project construction company completed 143 patent applications and 152 authorised patents. Shanghai Petrochemical Engineering Co completed 50 patent applications (40 patents for invention, accounting for 80% of the total) and 44 authorised patents (32 patents for invention, accounting for 72.7% of the total).

Up to Nov 30, 2015, SEG owned 1,779 patents in China (715 patents for invention, accounting for 40.2% of the total and 33 patents abroad), covering its main business domains including oil refining, petrochemicals, new coal chemicals, pharmaceutical chemicals, clean energy and environmental engineering, etc. Besides, it also has 837 patents pending approval (724 patents for invention, accounting for 86.5% of the total and 36 patents abroad).

Awards: Results of incomplete statistics show that, the company won 87 awards granted by the state and Sinopec for its technical achievements.

1. Four (five item times) scientific achievements of the company won the national prize for scientific and technological progress in 2014, including the first prize of National Technical Invention for DMT0 Project and the first prize of the State Scientific and Technological Progress for the project of Design, Manufacture and Maintenance of Key Pressure Vessels under Extreme Conditions and the second prize of National Technical Invention and of the State Scientific and Technological Progress respectively.

2. 21 (34 item times) scientific achievements whose R&D involve SEG won the prize of scientific and technological progress awarded by Sinopec in 2014, including one for special award, four for first awards, eight for second awards and eight for third awards. A special award for technological progress was awarded for key technology development and application for aromatics.

3. Eight projects mainly applied for by SEG, including the ethylene complex in Wuhan and eight projects involving SEG including the revamp program for acid-containing petroleum processing adaptability and oil product quality enhancement program in Anqing were awarded prize of premium-quality works by Sinopec.





Push forward internationalized business operation steadily

SEG has made the Middle East, Middle Asia, Southeast Asia, Africa and America as its key target market abroad. By taking the national policy as its guideline and based upon requirements for listed company governance, the company will be more active in exploring new mechanism and modes of business management for refining projects overseas. The company's marketing network abroad is being optimized consecutively and its efficiency in market development has enhanced remarkably.



06

Care for employees

SEG has always taken “Employee’s Career Development” as one of its important missions. It is people-oriented in conducting its business management and strives to provide wide space and channels for their career development. It uses all of its endeavors to let employees share the corporate development with enterprise. The company helps its employees to realize their own value so that they grow together with the enterprise.





6.1 Safeguard employee's interests

Equal employment

Employment of child workers and forced labor are forbidden in the company. Employees shall not be differentiated due to their sex, nationality, belief and cultural backgrounds. In 2015, the rate of employment contract execution attains 100% and all permanent employees of the company have joined the labor union.

Emoluments

The company provides welfare guarantee for its employees as per the laws and specifications issued by the state, covering the "5 Insurances and 1 Provident Fund" social security system, namely, the insurance coverage for pension, medical insurance, unemployment insurance, work-related injury insurance and maternity insurance, and housing fund, official holiday and festivals, marital and bereavement leaves, maternity leave, leave for late childbirth, leave for nursing, fees for the only child, fees for heatstroke prevention and leave with pays, etc. In the meantime, we also offered, based upon actual conditions of enterprise and employees differentiated welfare package for our employees, which mainly include physical check-up, subsidy for rehabilitation, personal accident insurance for employees working abroad, corporate pension, supplementary medical insurance and assistance for employees in trouble.

We strictly observe laws and regulations governing protection for female workers to safeguard their interests at root. Female employee commissions have been established in labour unions of various levels to resolve issues they may encounter in work and life. We have made consecutive efforts to improve the working environment and conditions for female employees and implemented the systems governing their leave during pregnancy, maternity and nursing period and regular physical check-ups, providing special care to the physical and mental health of female employees. We cared about career development of female employees. The number of female employees in the company accounts for 27% of the total, including 6% for those in management posts of intermediate levels and above.



Democratic management

The company maintains and improves its system for democratic management has set up complete set of systems for various levels of staff congress. By making public enterprise affairs and focusing on democratic management, it broadens initiatively the channel for employee's involvement in democratic management and maintains earnestly employee's democratic rights and legal interests. The company organized democratic assessment of corporate leaders through staff congress to enable exercise of its rights to consider proposals, consider and adopt, oversee and comment and democratic election.



6.2 Care for occupational health



Stress on employee's health

The company organizes physical check-up at fixed intervals for its employees. It has set up dossier for occupational health and carries out health and psychological consultation periodically. Portions of the subsidiaries (branch companies) and project site overseas render instructions on mental health via training and lectures and organize psychological consultation to help employees to manipulate their personal mood and psychological status.



Prevention of occupational diseases

The company continued to increase its investment to optimize layout of facilities for dust suppression, noise suppression and safety at the site. It intensified its efforts for measurement and treatment of harmful gases, dust and noise to strive to provide a safe, healthy and comfortable environment for its employees and prevent and treat various occupational diseases effectively.



6.3 Intensified talents construction



Employees are cornerstones of enterprise development while enterprise is the stage through which employees realize their dreams. The company continued construction of channels to promote development of its talents so that they realize their own value, positional value and social value while growing together with the company.

Up to the end of 2015, there were 4,232 employees bearing technical titles of advanced levels or above, accounting for 21.88% of the total. 226 employees in the company were retained as expert, chief mechanics and technical positions of higher levels.

As driven by the corporate operation and business development, requirements for various positions and actual conditions facing its employees, the company takes capacity and quality upgrading as core and applies a leveled mode of training focusing on practice and offers sustainable opportunity of training for its employees. In 2015, a total of 31.2 thousand employees attended trainings, i.e., 4,700 employees for business management, 21.2 thousand for technical professionals and 5,300 employees for operators.



6.4 Harmonious enterprise

Community construction for employees working at front line

The company was active in system construction for construction related logistic projects. Communities (camps at jobsite) for front-line employees are tidy and in good order and provided with accessory facilities including canteen, sports ground, library and recreational facilities, etc. Services for hot water, network and AC are available in most of the communities (camps) to make employees' living convenient, comfortable and pleasant.



Enterprise culture construction

Efforts were made to continue to popularize the enterprise's mission "SINOPEC fights for the quality of life; builds SEG as a better place and shares it with you". The company carried out theme culture construction activities for enterprise actively to cultivate a culture atmosphere featuring opening, inclusion, communication, respect, collaboration and earnestness through diversified culture and sport activities and multi-level communications. It emphasized enhancement of the corporate cohesion through culture-based guidance on employee's value orientation and spiritual pursuits. It spared no efforts in building the company's entire strength to promote common development of both the company and its employees and creation and sharing of enterprise value by them.



07

Dedication to environmental protection

We are committed to being a green design advocate, green technology developer, green project builder and green office practitioner, and take it as our mission and responsibility to design and construct low-energy-consumption, high-efficiency, and eco-friendly green factories. We will carry out environmental impact assessment before project planning, analyze, estimate and assess the possible influences on air, water, geology, and community etc. after project implementation, propose measures and countermeasures to prevent and control pollution. By incorporating the 3R green design principles (pollution reduction, energy consumption reduction, and material recycling) in engineering designs, we manage to embody the green low-carbon concept in the whole design process. By exploring new paths for business development, we strive to make due contribution in leading the industry towards a low-carbon and green future.







7.1 Green design

Safety, energy efficiency, and environmental protection are three cornerstones for green engineering designs. We design utilities and infrastructures for each and every customer according to the hydrological and climate conditions at each project location, and recommend safe, reliable, advanced, and eco-friendly production process and technologies to investors according to customers' requirements and market conditions. Basing on the following three principles, we provide green design blueprints for each project, and construct energy-saving, green plants for each customer.

Safety: Safe and stable operation of units in their whole life is the foundation and core of our engineering design. We adopt advanced safety analysis methods such as HAZOP and LOPA, which are qualitative or semi-quantitative, engage the most experienced experts to develop safe and reliable production process for investors. We design sophisticated DCS control system and provide long-term, stable, safe and reliable units for our customers.

Energy conservation: We have excellent process optimization experts, who use our self-developed software to optimize the operation of each unit for shorter process and lower energy and material consumption. Based on the analysis of consumption of materials (including fresh water) and energy (electricity and steam) in the design process, we provide guaranteed amount of material and energy consumption for each project. Moreover, we engage professional mobile equipment experts for energy-saving design and selection of mobile equipment such as large compressors. Also, we have a "Energy Efficiency Doubling" expert team to provide comprehensive "Energy Efficiency Doubling" energy-saving plans for existing units.

Environmental protection: For large complexes, we can provide plant-wide green design programme for energy saving and consumption reduction as well as plant-wide harmless treatment programme for waste water, waste gas and solid wastes, so that optimized green operation of the whole plant can be realized.

The company made great progress in development of environmentally friendly and energy conservation technology in 2015. Environmental protection technologies covering flue gas desulfurisation and denitrification, hydrocarbon recovery and treatment, integrated treatment for refinery off-gas, recycled use of sewages from refinery and treatment for oil-containing slurry etc were applied successfully. Energy conservation technologies for integrated recovery and use of low temperature waste heat and intensified heat transfer for cracking furnace etc were applied widely. Efforts were also carried out to optimize plant-wide energy consumption.





7.2 Green construction

We integrate low-carbon economy and green economy concepts into the whole process of construction and adhere to the principle of “Control-Reduction-Recycling”. Through actively promoting the application of new techniques and technologies for engineering construction and optimizing organizational structure for construction, we have minimized the harm to the environment brought by construction activities. We have developed special harmless welding technology to achieve zero emission of harmful gas generated in the process of welding. Moreover, we use new waterjet cutting process for metal to achieve green construction.

At the construction sites, we infuse the awareness of environmental protection into each management detail. Effective measures of dust prevention and suppression are adopted at construction sites. The emissions from onsite vehicles, machinery and equipment, as well as pollutions from dust, noise and waste during transportation are also under control. Standard workshop of prefabrication is built for project construction, where noise reduction barrier is set. SEG would refrain from construction at night and using equipment that would make noises so as to reduce noise pollution. In addition, dust removal facilities are provided to reduce dust pollution from sand-blasting and anti-corrosion activities. We have been improving the efficiency of energy utilization during construction, saving energy, formulating energy-saving measures, using energy-efficient equipment and products, optimizing construction process, and making full use of clean and renewable energy. We have also adopted effective measures to supervise and promote the reasonable and economical use of materials, recycle and reuse surplus materials as much as possible, and minimize the consumption of materials and resources during construction. In the process of construction, we put emphasis on the protection of biodiversity and recovery of the original ecosystem, and try our utmost to achieve fusion of construction and nature.



7.3 Green office work

The company intensified its efforts to popularize the concept of green office work. It promoted green practice and paperless office work. By applying electronic and network-based modes, paperless transmission and storage of official documents and information were realized at the corporate home office and between the home office and various subsidiaries (branches), thus consumption of papers for office work purpose was reduced. Construction for video information system was promoted positively, where meetings between the corporate home office and various subsidiaries (branches) were held via videos as much as possible to enhance working efficiency, save costs for meetings and reduce energy consumption. Procurement of disposable items was minimized to promote use of durable items.



08

Win for all

We have always taken “Win for All” as an indispensable means to win respect and acceptance from the society. We are committed to promoting social harmony and strive to be reliable and outstanding corporate citizen.





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8.1 Promote the employment of the enterprise

Any discrimination in race, color of skin, nationality, language, ethnicity, belief, physical disability and political groups is banned in our recruitment, selection, employee development, payroll and welfare, and employment contract. Our minority employees account for 2.95% of the total. In 2015, 337 graduates of the current year were retained by SEG. 530 persons working in the company under other forms of employment became corporate employees under contract to stabilize the number of permanent employees and ensure smooth carry-out of business operations in the company.



8.2 Poverty alleviation

We have, as an outstanding enterprise should have done, always put stress on feedback to the society, and be active in public welfare programs and contribute our shares in poverty alleviation. As guided by the trade union, the home office and subsidiaries carried out and participated in many effective programs for public welfare based on local realities. For providing relief to areas stricken by earthquake, flood and drought, SEG spared no efforts and actively shouldered its CSR to provide relief for people in those areas. The company donated a total amount of 0.22million yuan in 2015.



8.3 Voluntary activities

The company encourages its employees to participate in various programs for voluntary service and social public welfare. In 2015, various subsidiaries (branches) organized and carried out positively diversified forms of voluntary services to follow example of Lei Feng, including charity-driven donation, work and blood donation free of charge, care for special groups etc so as to feedback the society with their heart and create harmonious atmosphere.



8.4 Harmonious coexistence with community

Service system for communities optimized sustainably

Following the concept of "local integration, mutual development and win-win collaboration", we have been making efforts to community cooperation to achieve social harmony based on long-term mechanism of mutual interaction and joint efforts. Social organizations and volunteers in communities are encouraged and directed to carry out public welfare service to promote professional development for community services. For example, for help with physical health, community security and property management etc. from the community residents, supporting on physical fitness, psychological relaxation and investigation and rectification for safety incident potential for community to achieve harmonious coexistence with community.



Build jointly green communities and pleasant homelands

We have been stressing equally production and livelihood to hit harmonious balance among financial, environmental and social benefits. We have been making efforts to promote community development to achieve social harmony based on long-term mechanism of mutual interaction and joint efforts. In 2015, the company focused on construction of green communities by taking "Being Green and Environmentally Friendly" as a theme to enable community residents to better work, study and live in pleasant and green environment.



09

Business Prospects

At a stage crucial to development of the company, we will cope positively with the new normal economy, benchmark in all respects “the world-class engineering company” in the world as to promote our competitiveness in the world. By taking our development strategy as baseline, we will focus on cultivation and sustainable upgrading of our ability in engineering integration and providing one-stop integrated solutions. We will strive to promote further reforms for professionalization and differentiation, optimize allocation for resources and optimize the structure for corporate governance. Efforts will be made to intensify market value management and capital operation and technical support to our core competitiveness. Full play will be given to core function of party construction to build teams with high performance and contingent for talents. We will work hard to promote management innovations and upgrade the corporate value so as to build early the company into the type of “build a world-class engineering company”.





Reporting entity

SINOPEC ENGINEERING (GROUP) CO., LTD. referred to as “SEG” or the “Company” in the report, and its subsidiaries (branches); they are referred to as “SEG”, “Group”, “Company” and “we”.

Time frame:

January 1 – December 31, 2015, with some parts extending beyond this timeframe.

References:

- (1) HKEX’s Environment, Social and Governance Reporting Guide
 - (2) Guideline for SOEs to Fulfilling Their CSR promulgated by State-owned Assets Supervision and Administration Commission
 - (3) Guideline for Preparing CSR in China (CASS-CSR2.0) released by CSR Center of Economics Department of Chinese Academy of Social Sciences
 - (4) Guideline for Preparing Sustainable Development Reports (GRIG3.1) released by Global Reporting Initiative
- * This report has not covered all relevant indicators.

Data clarification:

The data on business operation and financials contained in this report mainly come from the annual report of 2015. If any deviation, the annual report shall prevail. For the electronic version of this report, please visit www.segroup.cn. This report will also be submitted to HKSE and published on its website.

Disclaimer

This report contains some prospective statements. Except historical facts, all the statements about future or possible incidents (including but not limited to assumptions, targets, estimates and business plans) shall fall under the category of prospective statements. Owing to the impact of some changing factors, the future development or tendency of the facts are likely to be different with the prospective statements. The prospective statements contained herein were made in March 2016. SEG shall not be liable or obliged to revise these prospective statements.

Company information

Legal name

中石化炼化工程（集团）股份有限公司

Name in English

SINOPEC ENGINEERING (GROUP) CO., LTD.

Legal representative

Mr. Zhang Jianhua

President

Mr. Yan Shaochun

Registered address

No. 6A, Huixin East Street, Chaoyang District, Beijing, China

Office and contact address

Tower B, 19 Anyuan, Anhuibelli, Chaoyang District, Beijing, China

Zip code

100101

Company telephone

+8610 6499 8054

Listing place, stock abbreviation and stock code

H share: Hong Kong Stock Exchange

Stock abbreviation: SINOPEC SEG Group

Stock code: 2386.HK

Registered No. of license of business corporation

10000000041054

Tax registration No.

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Organization code

71093490-8

Internet website publishing this report

Designated website by HKSE Limited (hereinafter abbreviated as HKSE):

<http://www.hkex.com.hk>

Company website:

<http://www.segroup.cn>

SINOPEC ENGINEERING (GROUP) CO., LTD.

Address: Tower B, No.19, Anyuan, Anhui Beili, Chaoyang District,

Beijing, PRC Postcode: 100101

Website: www.segroup.cn



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