



# 2018

CORPORATE  
SOCIAL  
RESPONSIBILITY  
REPORT



**中国石化上海石油化工股份有限公司**  
**SINOPEC SHANGHAI PETROCHEMICAL COMPANY LIMITED**

(A joint stock limited company incorporated in the People's Republic of China)

Stock code: 00338 Hong Kong 600688 Shanghai





### ***Original Aspiration and Mission***

*Love My Country, Revitalize Petrochemical Industry and  
Provide Energy for Better Living*

### ***Strategic Positioning***

*To Build a Domestically Leading and Globally First-class  
Energy and Chemical as well as New Material Company*

### ***Corporate Value***

*People, Responsibility, Integrity,  
Precision, Innovation, Shared Values*

### ***Corporate Style***

*Strictness, Precision, Pragmatism*



# Table of Contents

Address by Chairman of the Board	01
SPC Responsibility Performance Sheet	03
Company Profile	05
Corporate Culture	06
Development Strategy	06
Corporate Governance	07
Communication about topics of social responsibility	08
Matrix for assessment of the importance of social responsibility topics	08
Responsibility Management	09
2018 Honors of Responsibility	11

 Revitalize petrochemical industry with innovative and pragmatic mindset	12
 Create value in good faith	18
 Develop business through win-win cooperation	22
 Refined operations, safety and green development	26
 People foremost, benefit the staff	38
 Fulfill responsibilities and serve the society	42
Outlook of 2019	46
Written Comments on Assessment of Corporate Social Responsibility Report	47
Index	51
Briefing of this report	53



## Address by Chairman of the Board



2018 is the 40th anniversary of economic reform and opening-up in China and also the critical year for Sinopec Shanghai Petrochemical Company Limited (hereinafter referred to as "SPC")'s deepening of reform and innovations. Faced with such complicated situations as swinging international oil prices, visible slowdown of energy demand growth and increasingly stringent environmental requirements, SPC remained mobilized for brand new endeavors from senior management to grassroots, focusing on three main campaigns of "environmental governance, overcoming difficulties of development, reserve of talents", making great efforts to implement such activities as stable operation of the units, optimization of production operations and cost reduction. As a result, the production operation is generally stable, safety and environmental protection are at a good tendency and the economic benefit presents favorable trends. In 2018, SPC achieved total industrial output value of 81.736 billion RMB and operation revenue of 107.765 billion RMB and totally paid tax revenue of 14.097 billion RMB, ranked 19<sup>th</sup> among the top 100 Shanghai-based enterprises in 2018.

SPC vigorously built “beautiful petrochemical industry” and accelerated the establishment of green enterprises. The company greatly promoted advanced, highly efficient, low-carbon, energy saving and water conservation technologies, spared no effort to take part in the battle of pollution prevention and treatment and focused on the campaign of “investigating unpleasant odor by all employees”. Consequently, the target of main pollutant emission reduction was accomplished on schedule and hazardous wastes were completely properly disposed. SPC took the initiative to undertake more social responsibilities, proactively promoted the integrated environmental improvement at Jinshan district, supplied national VI standard gasoline and diesel to the market in an all-around way and successfully completed support for safety, environmental protection, harmony and stability of the first session of international import expo.

SPC vigorously built “innovative petrochemical industry” and sped up development of smart plant. The company attached importance to fostering new momentum for innovative development. Therefore, brand new products and advanced technologies have kept on achieving new breakthroughs. SPC’s 48K large tow carbon fiber technology has filled the gaps in domestic market. The company has achieved breakthroughs in zero export of carbon fiber products. SPC proactively promoted building of smart plant and was rated as the demonstration enterprise of 2018 intelligent manufacturing pilot projects by the Ministry of Industry and Information Technology of the People’s Republic of China.

SPC vigorously built “sharing petrochemical industry” and kept on expanding the Circle of Friends. The company was committed to building green supply chain to share high quality products and service with cooperative partners. SPC also established linkage and interfacing mechanism with local government, 46 grassroots Party Branches were partnered and co-constructed with 46 village-based Party organizations to jointly build harmonious partnership between enterprises and local government and further enrich the connotation of regionalized Party building. Cumulatively more than 107 sessions of “Public Open Day” programs were held with over 3600 people/times of participation in communication and exchange.

SPC vigorously built “harmonious petrochemical industry” to improve the employees’ sense of happiness with great efforts. The company pushed forward the project of “talents-based corporate development” and reform of “three systems”, constantly expanded the career development channels for employees, facilitated and motivated employees to contribute themselves to sustainable development of the company. SPC practically assured the employees’ various rights and interests by adopting EAP in an all-round way and initiating great health management.

Thanks to the joint efforts of all staff and great support from all walks of life, 2018 is a harvest and fruitful year for SPC. The company was selected as “Constituent Stock of 2018 China SGCX-ESG50 Index (SynTaoGF CaiXin ESG 50 Index)” and granted with the honorary titles of “China Top 100 Enterprises”, “Innovation China-Top 100 Listed Companies”, “Shanghai Top 100 Enterprises of Two Excellences” and “Green Development Prizes”. Here I would like to express my sincere thanks to all SPC staff for their devotion and all sectors of society for their care and support to SPC.

A persevering doer can always achieve success and a persistent walker can always reach the destination. 2019 is the 70<sup>th</sup> anniversary of the founding of the People’s Republic of China and also a crucial year to determine the victory of sustainable development in an all-around way for SPC, in which the petrochemical industry has both opportunities and challenges. Centering on the development target of “building a domestically leading and globally first-class energy and chemical as well as new material company”, SPC will remain true to our original aspiration and stay firm in our great mission of “Love My Country, Revitalize Petrochemical Industry and Provide Energy for Better Living”, adhere to the work concept of “challenging the advanced level and benchmarking the most stringent standard”, act as a running dream seeker with the determination and courage of further reform and opening-up on the way of high quality development and present gifts to 70<sup>th</sup> anniversary of the founding of new China with new performance that lives up to new era.



Chairman **Wu Haijun**  
Mar. 19. 2019

# SPC Responsibility Performance Sheet



## Economics

Indicators	Unit	2018	2017	2016
Total assets	0.1 billion RMB	445.40	396.10	341.24
Operating revenue	0.1 billion RMB	1077.65	920.14	778.94
Total profit	0.1 billion RMB	67.49	78.51	77.65
Earnings per share	RMB	0.49	0.57	0.55
Quantity of applications for invention patents	Piece	63	50	50
Customer satisfaction	%	97.93	96.49	96.22
Spot check compliance rate of products	%	100	100	100
Rate of purchasing by invitation to bids	%	90.47	92.14	78.32
Direct supply from manufacturers	%	99.60	99.17	97.50
Ratio of suppliers' obtaining ISO14000 environmental management system certification	%	54.10	58.53	38.61



## Society

Indicators	Unit	2018	2017	2016
Total tax paid	0.1 billion RMB	140.97	162.09	142.23
Coverage rate of anti-commercial bribery training	%	100	100	100
Proportion of informal employees	%	6.62	10.45	10.33
Labor contract conclusion rate	%	100	100	100
Coverage rate of collective contracts	%	100	100	100
Social insurance coverage rate	%	100	100	100
Proportion of female management staff	%	17.20	17.80	17.81
Incidence of occupational diseases	%	0.01	0	0
Number of occupational safety and health trainees	person	13750	9577	8798
Coverage rate of physical examination	%	98.92	98.65	98.92
Input into relief of poverty-stricken employees	10k RMB	150	150	150



## Safety

Indicators	Unit	2018	2017	2016
Annual mortality rate of employees' work injuries	%	0	0	0
Annual rate of employees' serious injuries	%	0	0	0
Number of major incidents of fire hazards and explosions	Pce.	0	0	0
Number of major incidents of environmental pollutions	Pce.	0	0	0
Number of major incidents of occupational hazards	Pce.	0	0	0
Major incidents of chemical spills	Pce.	0	0	0
Major traffic accidents	Pce.	0	0	0
Major liability incidents	Pce.	0	0	0
Mortality rate per million man-hours	%	0	0	0
Input into work safety	10k RMB	13765.59	19369.7	23508.3



## Environment

Indicators	Unit	2018	2017	2016
Total environmental investment	10k RMB	50957	73411	17110
Fresh water consumption	10k ton	5939.96	6027.05	5762.28
COD discharge	ton	1276.13	1691.94	/
Discharge of ammonia nitrogen	ton	28.04	46.12	/
Discharge of waste gas	10k m <sup>3</sup>	454.42	479.54	480.54
SO <sub>2</sub> discharge	ton	237.76	660.54	/
Discharge of nitrogen oxides	ton	1450.94	2416.71	/
Total consumption of industrial energy	10k ton	684.9	690.5	698.9
Electricity consumption excluding external power supply	10k kilowatt	318852	319555	326440
CO <sub>2</sub> discharge	Ton	1046.14	1039.84	1046.03
Discharge of hazardous wastes	10k ton	0.96	1.01	0.71
Discharge of non-hazardous wastes	10k ton	81.54	67.23	69.51
Comprehensive recycling volume of sludge	10k ton	1.71	1.31	1.53
Frequency of major leakage of chemicals	Time	0	0	0

Note: 1. The accounting method for SPC 2018 main pollutants has been linked up with the pollutant discharge license and environmental protection tax and field measurement method is adopted for accounting of the total discharge of pollutants. Field measurement method will be adopted for accounting of the pollutant discharge data in the future in accordance with provisions of the pollutant discharge license. Previous data of non-field measurement will not be listed in present report any more, for the difference is great between the data sourced from field measurement method and the data obtained from previous material balance calculation method and pollutant discharge coefficient calculation method and there is no comparability. To facilitate vertical comparisons, the pollutant discharge data of 2017 is estimated in this report on the basis of the pollutant discharge coefficient of field measurement method.

2. As SPC adopts varieties of packing materials, including iron, steel, timber, plastics, woven bags etc., there are various types, including barrels, boxes, bags etc.; the dimensions vary and part of the packages can be recycled, SPC doesn't have the capability for calculating the overall quantity of packages.

# Company Profile



Located in Jinshan District, Shanghai, as the holding subsidiary of China Petroleum & Chemical Corporation, SPC is one of the largest integrated enterprises of refining and chemical industry in China and also an important production base of oil products, intermediate petrochemical products, synthetic resin and synthetic fiber in China.



1972

Shanghai Petrochemical Complex, the predecessor of SPC, was founded.



1993

As a result of standardized reform of shareholding system for the state-owned enterprises, the Company became the first limited liability company in China with its shares listed on Shanghai Stock Exchange, the Stock Exchange of Hong Kong and New York Stock Exchange at the same time.



2013

SPC completed reform of non-tradable shares.



2018

As a result of six stages of large-scale concentrated construction, the production capacity has been significantly improved, with main products including such four categories as petroleum, chemicals, synthetic resin as well as synthetic fiber polymers and synthetic fibers.





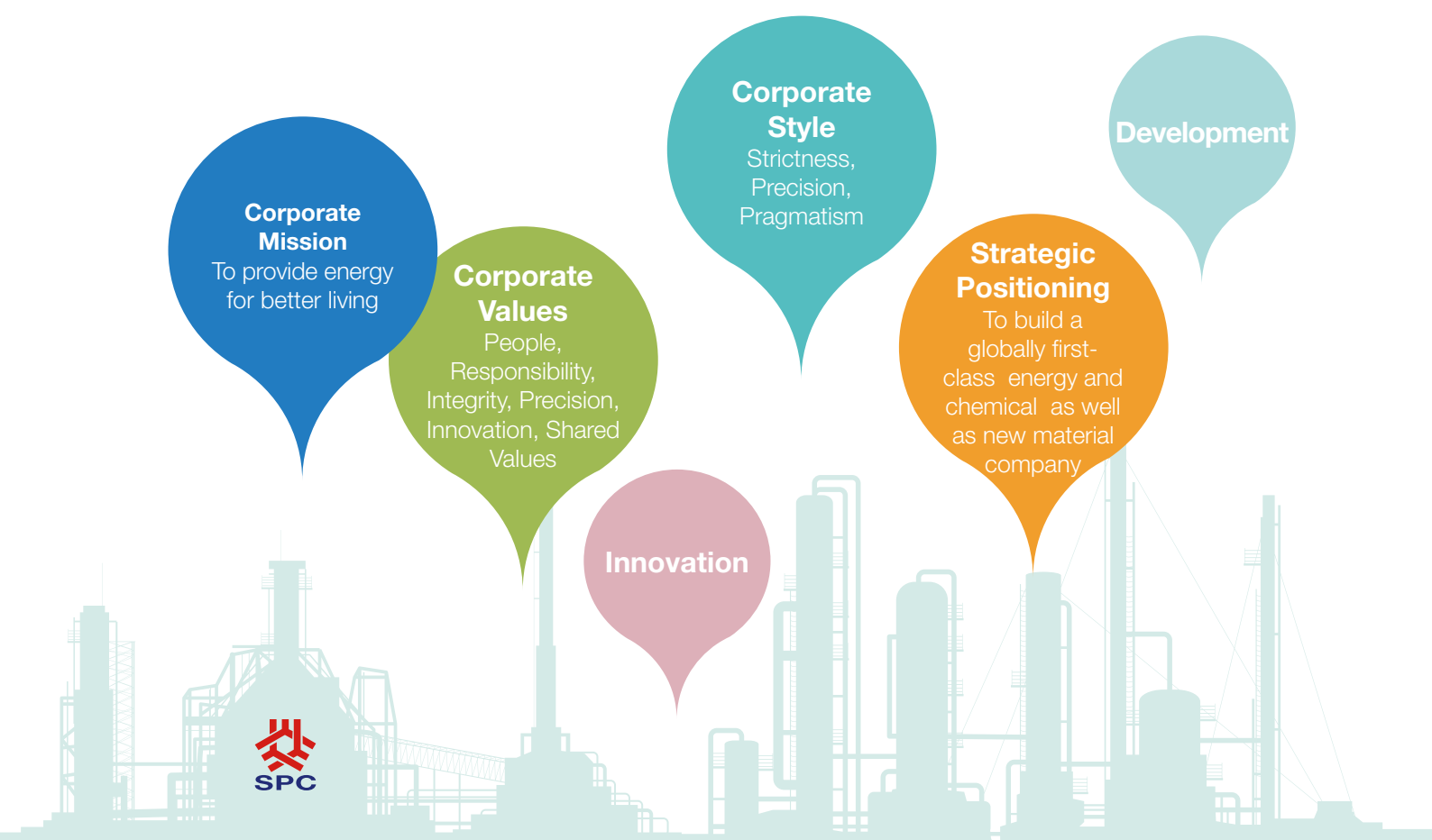
# Corporate Culture

## Enterprise Spirit: Love My Country, Revitalize Petrochemical Industry

Inheriting the original aspiration and great mission of “loving my country and revitalizing petrochemical industry”, fulfilling the corporate culture by implementing the fine tradition of “three honesties and four strictness (to be an honest person, to speak honestly and act honestly in revolutionary cause; to have strict requirements, well-arranged organization and strict discipline in work)”, “hard-working and down-to-earth style” as well as “refinement and preciseness”, adhering to Jinshan spirit of “Entrepreneurship, Pragmatism, Solidarity, Dedication” and the management philosophy of “challenging the advanced,

performing refined management”, observing the occupation code of “being dedicated to be a cultured person, observing regulations to be an honest person, keeping faith to be a civilized person”, proactively fostered and practiced socialist core values and vigorously practiced the development concept of “innovation, harmony, green, open and sharing”. SPC core value concept system includes the corporate mission, strategic positioning, corporate values and corporate style. It considers Sinopec core value concept as the fundamental adherence and embodies characterized connotations in practice.

SPC entered the list of 2017-2018 Top 100 Shanghai Enterprises of Corporate Brand Culture Development.



## Development Strategy

SPC proactively implemented President Xi Jinping’s socialist ideology with Chinese characteristics for new era and the spirit of the 19th National Congress of the Communist Party of China. Considering “domestically leading and globally first-class” as the target, SPC stuck to the development concept of “innovation, harmony, green, open and sharing”, unswervingly carried out the development strategy of “being led by value and driven by innovation, making overall arrangement of resources, open cooperation and green low carbon”, followed the

development ideas of “enlarging oil refining, intensifying chemicals and refining fine chemicals” and adhered to “giving equal consideration to both low cost and differentiation and laying equal stress on large-scale and precision”. The Company was committed to becoming an excellent energy and chemical enterprise featured with “prominent major business, superior assets, reasonable structure, healthy finance, advanced technology, green low carbon, distinctive culture and standardized governance”.

# Corporate Governance

Strictly abiding by the Corporation Law, the Securities Law and other state laws and regulations and following the supervision requirements of China Securities Regulatory Commission and the Exchange of the listing locations, SPC established the corporate governance systems in compliance with international and state laws and regulations that have defined separation of rights and duties for various levels and clear decision-making process, kept on enhancing

corporate system improvement, improved internal governance, decision-making, business operation and maintained the corporate and employees' lawful rights and interests according to the law, improved the information disclosure quality and the corporate overall image. SPC has complied with all the applicable rules and articles as stipulated in the Environmental, Social and Governance Reporting Guide in 2018.

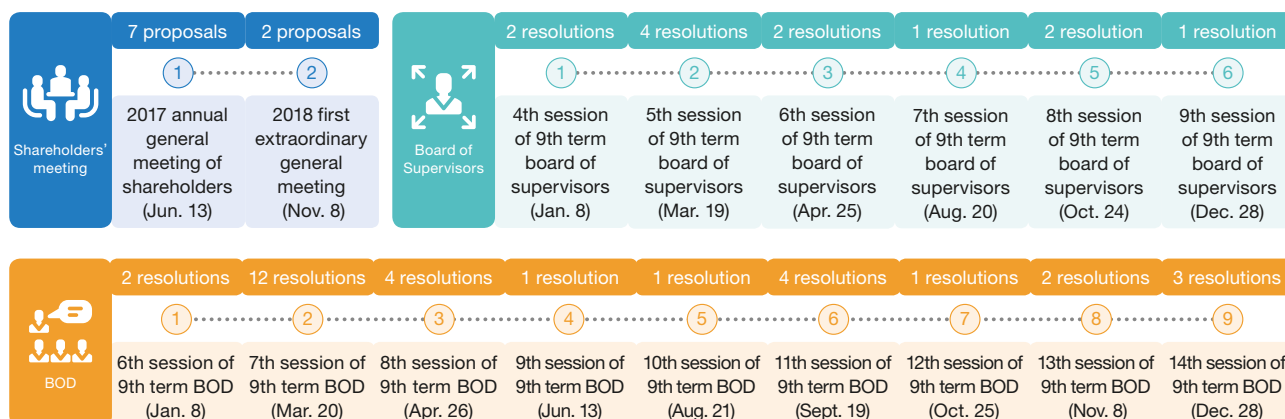
Board of Directors					
Name	Position	Strategic Committee	Nominating Committee	Compensation and Assessment Committee	Audit Committee
Wu Haijun	Party secretary, executive director, chairman of the Board	Chairman	Committee member		
Shi Wei	Deputy party secretary, executive director	Committee member			
Jin Qiang	Executive director				
Guo Xiaojun	Executive director, Board secretary, joint company secretary	Committee member			
Zhou Meiyun	Executive director	Committee member		Committee member	
Lei Dianwu	Non-executive director	Committee member			
Mo Zhenglin	Non-executive director	Committee member			
Zhang Yimin	Independent non-executive director		Chairman	Chairman	
Liu Yunhong	Independent non-executive director				Committee member
Du Weifeng	Independent non-executive director		Committee member	Committee member	Committee member
Li Yuanqin	Independent non-executive director	Committee member			Chairman

Board of Supervisors	
Name	Position
Ma Yanhui	Deputy party secretary, Company Supervisor, chairman of board of supervisors
Zuo Qiang	Company Supervisor
Li Xiaoxia	Company Supervisor
Zhai Yalin	External supervisor
Fan Qingyong	External supervisor
Zheng Yunduan	Independent supervisor
Cai Tingji	Independent supervisor

Management Level	
Name	Position
Shi Wei	General manager
Jin Qiang	Deputy general manager
Guo Xiaojun	Deputy general manager
Zhou Meiyun	Deputy general manager
Jin Wenmin	Deputy general manager

In 2018, SPC held 2 sessions of shareholders' meeting, 9 sessions of Board of Directors (BOD) meeting, 2 sessions of BOD audit committee meeting, 3 sessions of BOD compensation and assessment committee meeting, 2 sessions of BOD nominating

committee meeting, 1 session of BOD strategic committee meeting and 5 sessions of board of supervisors meeting, at which relevant proposals were successfully discussed and reviewed.



# Communication about topics of social responsibility

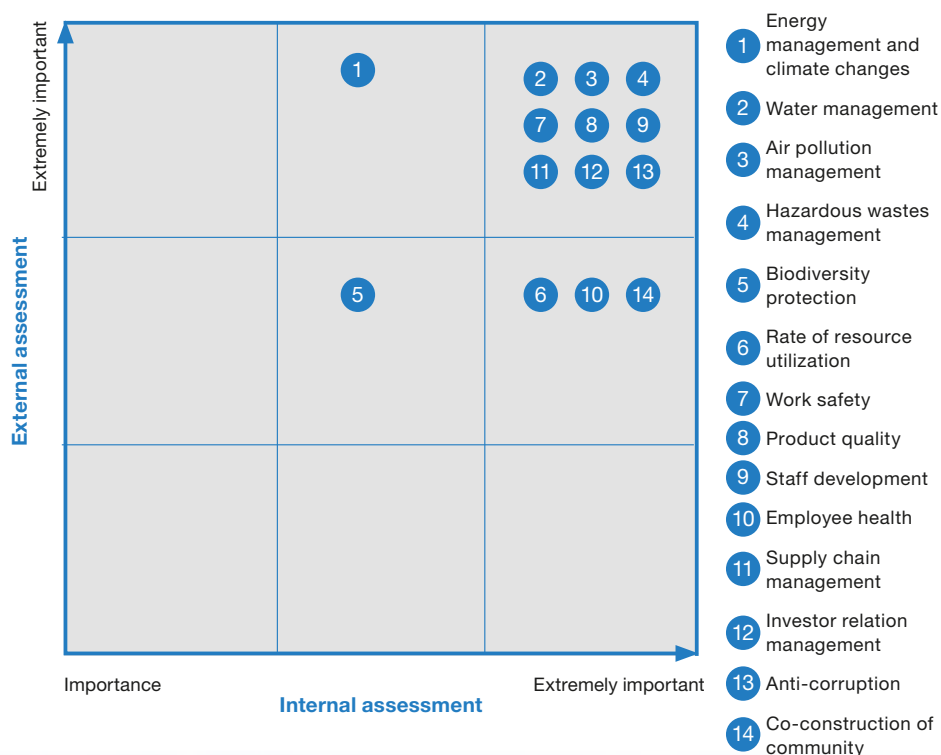
SPC held 1 session of workers' congress and 7 sessions of joint meeting of workers' congress for discussions about the topics of social responsibility related to workers' integrated development in 2018.

SPC carried out economic activity analysis meeting every year to study domestic and international market changes, follow up, analyze and interpret applicable industry policies, laws and regulations, provide early warning to possible opportunities or risks and systematically

analyze the enterprise production operations. In combination with the analysis and judgment of the company internal and external situations, SPC discussed the importance of the topics of social responsibility.

SPC carried out great discussions about "Responsibility and Undertaking" to extensively collect the recommendations from various stakeholders and make assessment of the importance of critical topics.

## Matrix for assessment of the importance of social responsibility topics





# Responsibility management

On the basis of “the Triple Bottom Line” theory and the social responsibility management theory, SPC established the framework of corporate social responsibility management, developed the responsibility strategy by starting from the strategic positioning of building “domestically leading and globally first-class” energy and chemical as well as new material company, continuously improved the

mechanism of corporate social responsibility management system, pushed forward finalization of the scheme for building of six major responsibility capacities and the scheme for incorporation of seven major responsibilities, established diversified and expedite responsibility communication channels and kept on improving the responsibility performance management system.



## Responsibility strategy

Based upon the various national work deployments, SPC firmly set up the philosophy of “challenging the advanced level and benchmarking the most stringent standard”, adhered to problem orientation, maintained strategic focus, closely centered on such three main lines as quality and efficiency improvement and upgrading, deepening of reform and innovations as well as comprehensively strengthened the Party discipline, successfully fought three main campaigns of “environmental governance, overcoming difficulties of development, reserve of talents”, made great efforts to hit the target of “great enterprise, great aspiration, great achievements and great contribution” and endeavored to create a new situation of building a “domestically leading and globally first-class” energy and chemical as well as new material company



## Responsibility Incorporation and Responsibility Capability

SPC proactively facilitated finalization of the scheme for incorporation of seven major responsibilities and building of six major responsibility capabilities and improved the corporate social responsibility management level.



## Responsibility governance

The Company kept on improving the mechanism of management system for corporate social responsibility, perfecting the management framework consisting of a corporate social responsibility steering group, in which the chairman of the board acts as the group leader and directors of all divisions concerned work as the group members, and an implementation level undertaken by various function divisions, to lead SPC legal corporate governance steering group, deepening reform steering group, green enterprise establishment steering group, HSSE supervision management committee, corporate culture development steering group and information technology steering group.

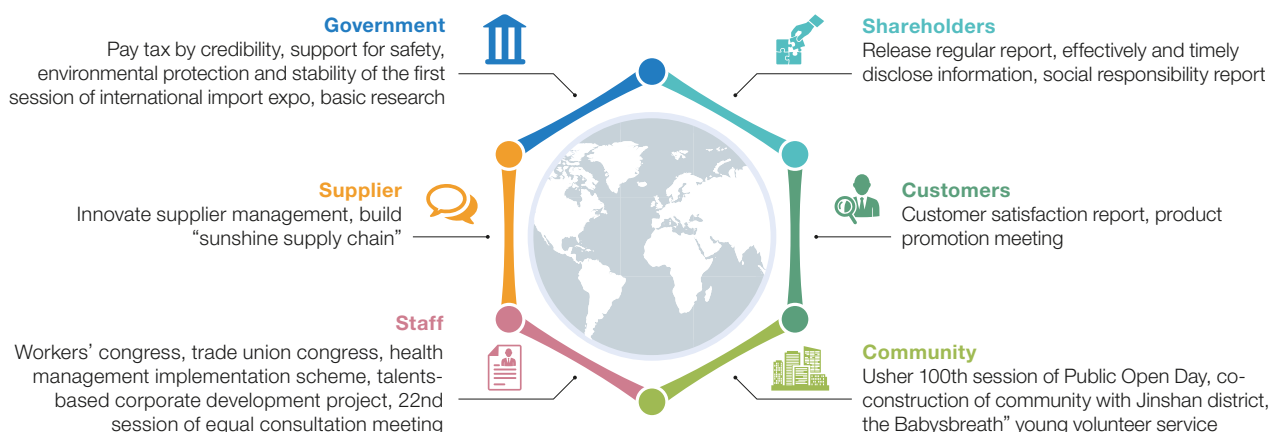


## Responsibility performance

SPC established SPC Social Responsibility Indicator System from the aspects of HSSE, production operations, engineering construction, technical economy, technical progress, talent team building etc. and kept on improving the assessment indicator system and performance management system.

## Communication of responsibilities

Taking advantage of the traditional media and new media, the Public Open Day, CSR report, co-construction of community, sunshine supply chain engineering etc., SPC released the progress of CSR related system building and implementation to the stakeholders, listened to appeals from all parties and accepted reasonable recommendations, thus establishing the relationship of win-win cooperation of mutual support and mutual benefit.



- SPC won “the Green Development Prize” at the third Corporate Social Responsibility Summit Meeting of China (Shanghai) Listed Companies.
- SPC won the title of 2017 national and Shanghai customer satisfaction enterprise.
- SPC entered the list of the first session “Innovative China• Top 100 Listed Companies”.
- SPC thermal power division was granted with the title of 2018 national workers’ pioneer.
- SPC ranked top 10 in the list of China enterprises green transparency indicators as shown in China Enterprises Green Transparency Report.
- SPC won the first prize of excellent exhibition products in advanced material industry exhibition of 12th China International Industry Expo.
- SPC won “China Top 100 Enterprise Award” at 18th China Top 100 Listed Companies Summit Forum and 4th Integrated Development Forum of China Top 1000 Cities, and was successfully selected as the Constituent Stock of 2018 China SGCX-ESG50 Index.
- SPC project was once more granted with the title of “Shanghai Top 100 High-tech Achievement Transfer Projects” in 2018.
- SPC was granted with the title of “the Most Valuable Hong Kong Stock Link Company” at the grand ceremony of 2018 “Golden Wing Prize” for Hong Kong stock link companies held by Securities Times.
- SPC was awarded with the excellent innovative design product prize in 2018 grand prix competition for innovative design by China industrial design and research institutes.
- SPC was granted with the title of model organization in 2017 stock company’s financial final settlement.
- SPC employees won the title of 2017 excellent Red Cross volunteers granted by the Red Cross Society of China.



State level

- SPC’s four projects were awarded with the first, second and third prize of 2017 Sinopec group scientific and technological progress.
- SPC was granted with the title of 2017 Sinopec group quality model organization.
- SPC’s seven retirees were awarded with the prize of 2017 Sinopec Model Individuals for Refueling the Party Cause and Enterprise Development with Positive Energy.
- SPC’s Quality Control (QC) subject was awarded with the first prize of 2018 Sinopec excellent QC achievements.
- SPC won the first group prize in Sinopec Group EO/EG Unit operators’ skill contest.
- SPC won the second group prize in 2018 Sinopec Group HR management business contest.
- SPC was granted with the honorary title of “model organization of 2018 Sinopec statistics work”.
- SPC won three golden prizes, four silver prizes and three bronze prizes in 2018 Sinopec Group business contest.
- SPC was awarded with the model organization of 2017 Sinopec Group financial management and excellent enterprise in the program of “Financial Fundamental Management Year”.
- SPC was granted with the title of excellent enterprise in “Financial Foundation Management Year” campaign.
- SPC 6 employees and 2 collectives were granted with the honorary title of 2018 Sinopec labor model and advanced collectives.



Group company level

## 2018 Honors of responsibility



Municipal level



District level

- SPC’s quality breakthrough project was awarded with the third prize of 2017 Shanghai annual key product quality breakthrough.
- SPC’s QC team won 2017 Shanghai annual excellent QC team.
- SPC’s brand culture stories were reported synchronously by People’s Daily Online and Shanghai multiple platforms.
- SPC multiple collectives and individuals were granted with the title of 2018 Shanghai Workers’ Pioneer, May 1st Labor Award and May 1st Labor Medal.
- SPC three proposals were awarded with the Innovation Prize of 2017 Shanghai Staff Rational Proposal Program.
- SPC’s special material for PP quality improvement was awarded with the third prize of 2018 Shanghai Quality Breakthrough.
- SPC’s trade union was awarded with the outstanding contribution prize of “China Dream, Beautifulness of Labor”—the first session of Shanghai staff network photography contest.
- SPC ranked seventh in 2017 Shanghai Top 100 operating revenue of foreign-funded enterprises and fourth in Top 100 total tax payment of foreign-funded enterprises.
- SPC’s Fu Xiaoping team was approved to set up “Shanghai Skill Master Studio”.
- SPC employees won the title of excellent volunteer of 2017 “Philanthropy in Shanghai” and the title of 2016-2017 Shanghai outstanding volunteers.

- SPC CPP film patent won the second prize of 2015-2016 Jinshan District Scientific and Technological Progress (Invention and Creation Category).
- SPC won the group silver award in the hotel industry skill contest of Qingpu District of Shanghai.





## Revitalize petrochemical industry with innovative and pragmatic mindset

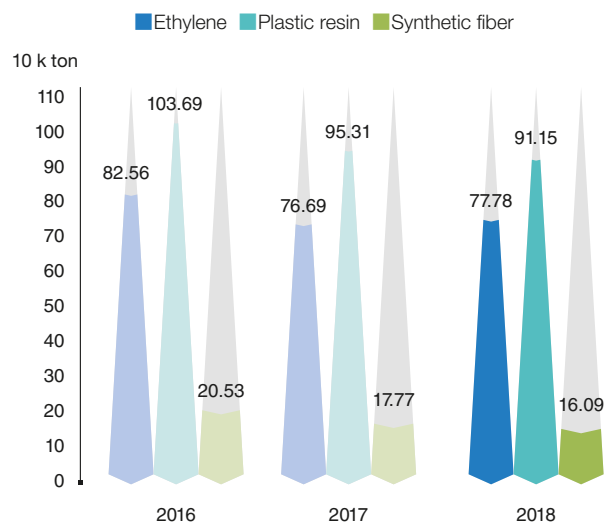
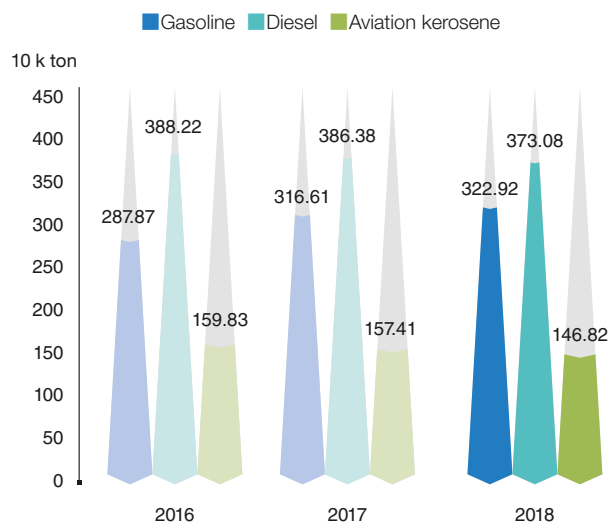
At the stage of iterative replacement of new and old kinetic energy in petroleum and chemical industry in China, SPC firmly set up the concept of “challenging to the advanced level and benchmarking the most stringent standard”, adhered to the innovation-driven development strategy, upheld business promotion through quality improvement, stuck to intelligent manufacturing and was committed to satisfying high quality economic development and new demand of clean energy and advanced chemical materials by people’s better living.

- 01 Supply premium products
- 02 Deepen quality for business promotion
- 03 Make innovations in petrochemical technology
- 04 Build smart plant

# Supply premium products

Based on Development Planning of Petrochemical and Chemical Industry (2016-2020) and the document requirements of Shanghai municipal Notice on Supply of National VI standard Road Gasoline and Diesel Ahead of Schedule in 2018, and the concept of “challenging to the advanced level and benchmarking the most stringent standard”, SPC

strengthened process technology management, production optimization management and was committed to providing sustainable energy, high performance, energy saving and environmental friendly advanced chemical materials efficiently and stably in 2017, thus providing better energy for better living.



## Sustainable energy

- National VI standard gasoline and diesel;
- High quality aviation kerosene;
- Energy saving and environmental friendly energy equipment materials.

## Chemical advanced materials in construction industry

- Construction engineering plastics in compliance with low carbon and environmental requirements;
- Piping, doors, windows and other plastics in compliance with low carbon and environmental requirements;
- Solid and reliable advanced materials for construction and reinforcement of infrastructure.



## Sustainable consumption

- Clean and high quality textile industry upstream feedstock;
- Safe and degradable foodstuff packaging materials;
- Safe and reliable medical packaging materials.

## Advanced chemical materials in industry field

- High-end materials applied in safe glass, solar photovoltaic component encapsulation, coating, primer, printing ink and other fields.

## Generation history of SPC national VI standard gasoline and diesel

SPC national VI standard gasoline and diesel were launched into the market on August 20, which was 42 days earlier than October 1, which was required by Shanghai municipal government to upgrade all gasoline and diesel to national VI standard. All the gasoline and diesel produced by SPC had reached national VI standard.

### July 4

Modified the storage & transport system; Modified gasoline blending system.

### August 1

Modified 2 storage tanks; Additionally installed 47 pipelines due to capacity expansion; Constructed one set of new gasoline blending system.

### August 6

SPC QC center issued the first piece of quality certificate of national VI standard diesel.

### August 20

Products were launched into the market.

### November 9

Supported supply of SPC national VI standard oil products to the first session of International Import Expo.

### In the future

Fill the gap of intermediate feedstock through project construction and realize long-term stable supply of national VI standard gasoline and diesel.

SPC strengthened process technology management and kept on carrying out production optimization management in 2018. The progress rate of SPC monitored main technical-economic indicators was 50% on year-on-year basis and that of Sinopec group reached 25%.

## Strengthen process technology management



### Strengthened management of process change

Revised SPC Regulations on Management of Process Technologies;  
Realized online approval for all process changes;  
Totally applied for 342 processes of change.



### Boosted process alarm management

Built DCS alarm management systems for totally 22 production units.



### Improved basic data of LDAR

Expert training, planned log development;  
Industrial benchmarking, standardized the sealing point number.



### Carried out automatic control rate optimization management

Classified all the regulating valves that were not put into automatic control mode, and worked out corresponding measures, respectively.

## Continuously carried out production optimization management

SPC further carried out production optimization management while it continuously implemented optimization of feedstock allocation and material allocation in 2018. Besides, in combination with the state integrated strategy of the Yangtze River Delta, SPC concentrated

its efforts on expanding the geographical border of production optimization, deepened optimization of regional resources and facilitated mutual supply of feedstock and regional integrative development.

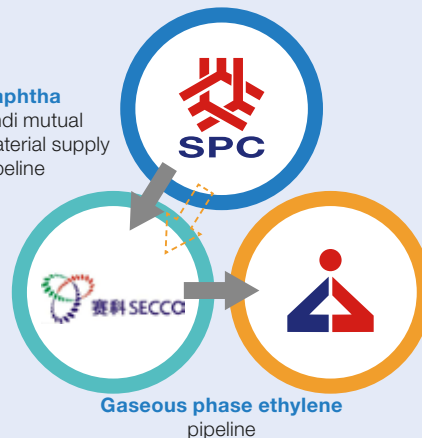


### The Company managed to realize “green renovation” of products

As a result of process optimization and strengthening the process control, SPC 2# polyester plant successfully implemented the product renovation from high modulus and low shrinkage PET chips to cationic PET chips without the need of shutdown, which not only shortened the renovation time, but also reduced discharge of pollutants during shutdown, thus realizing “green renovation”.



**Naphtha**  
Jindi mutual  
material supply  
pipeline





# Deepen quality for business promotion

In 2018, SPC aimed at meeting the quality demand of people's better living, kept on improving integrated management system, intensified control of the whole process of quality formation, ensured that various links affecting product quality were under control,

supported high quality supply and boosted high quality development.

The product compliance rate reached 100% throughout the year. There were no quality incidents or recalls of the sold products due to quality issues.

- 1 Continuously improved the integrated management system**  
 Key points of 2018 quality work;  
 2018 quality inspection plan;  
 Management measures for online quality analyzers;  
 Quality manual for QC center;  
 Internal audit of laboratory system.
- 3 Continuously improved quality**  
 Quality day and quality month activities;  
 Carried out quality breakthroughs.

In 2018

1 breakthrough was granted with Shanghai excellent breakthrough achievements;  
 1 quality story won the second prize of Shanghai quality stories;  
 5 quality stories won the consolation prize of Shanghai quality stories.



- 2 Further intensified standardization management**  
 Disclose SPC all product related standards;  
 Development of 2 industrial standards;  
 Development, revision and publication of 10 enterprise standards;  
 Development and revision of 27 quality agreement standards.
- 4 Process quality supervision and coordination**  
 Enhanced quality identification, prevention and control under micro-thermal climate;  
 Strictly implemented the requirements that must be identified for change operations;  
 Improved crude oil quality control;  
 Technical requirements for purchase of closed samplers;  
 Product internal control quality indicators for road diesel and other products.

Based upon the requirements that the key fields of bottom line for quality safety must be held as specified in the Key Points for 2018 Product Quality Supervision issued by General Administration of Quality Supervision, Inspection and Quarantine, SPC deeply focused

on carrying out quality breakthrough, intensified process control and ensured the quality and safety in areas including downstream textile and garment consumer goods as well as food related product in 2018.



Quality and safety of consumer goods

## Strengthened process control

**Responded to national standards for food contact materials:** tested 24 products that are related to SPC, issued statement of compliance for 17 products and incorporated relevant requirements into the company quality inspection plan.

## Quality breakthrough

**Polyester staple fiber plant:** carried out optimization improvement by centering on key quality indicators for bright sewing thread users;

**Flame retardant polyester:** the excellence rate of flame retardant products was increased to 100%. The flame retardant polyester products presented superior performance and stable quality.

Food related product quality and safety



# Make innovations in petrochemical technology

In 2018, SPC adhered to the concept that “Innovation is the first momentum that guides the development”, deepened reform of the mechanism for scientific and technological system, explored the pattern for transformation of innovative achievements, interfaced construction of Shanghai global technical innovation center and the industrial

## SPC actions of scientific and technological innovations in 2018



Boosted information system construction of scientific research management.



Intensified and improved the target management and schedule management of key scientific research projects as well as patent right development and the quality for conclusion of scientific research projects.



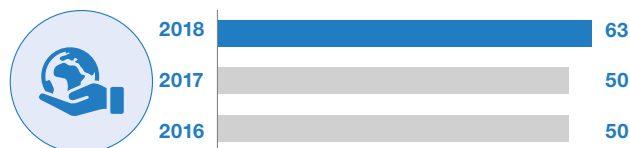
Focused on implementation of technical exchange, market survey and collaborative innovation, proactively sought new direction and key points of scientific research.

development demand, developed a series of advanced products that filled the domestic gap or broke the overseas technical monopoly and provided support to SPC's solutions to environmental governance as well as development and breakthroughs.

## Focus on green development

In 2018, SPC focused on green and low carbon development in accordance with state requirements on environmental pollution prevention and treatment. The company researched and developed a batch of technologies, including critical production technology for national VI standard gasoline and diesel, environmental friendly and green polyolefin technology, application of low NO<sub>x</sub> environmental and energy saving technology in cracking heaters, anaerobic petrochemical mixed sewage treatment technology etc.

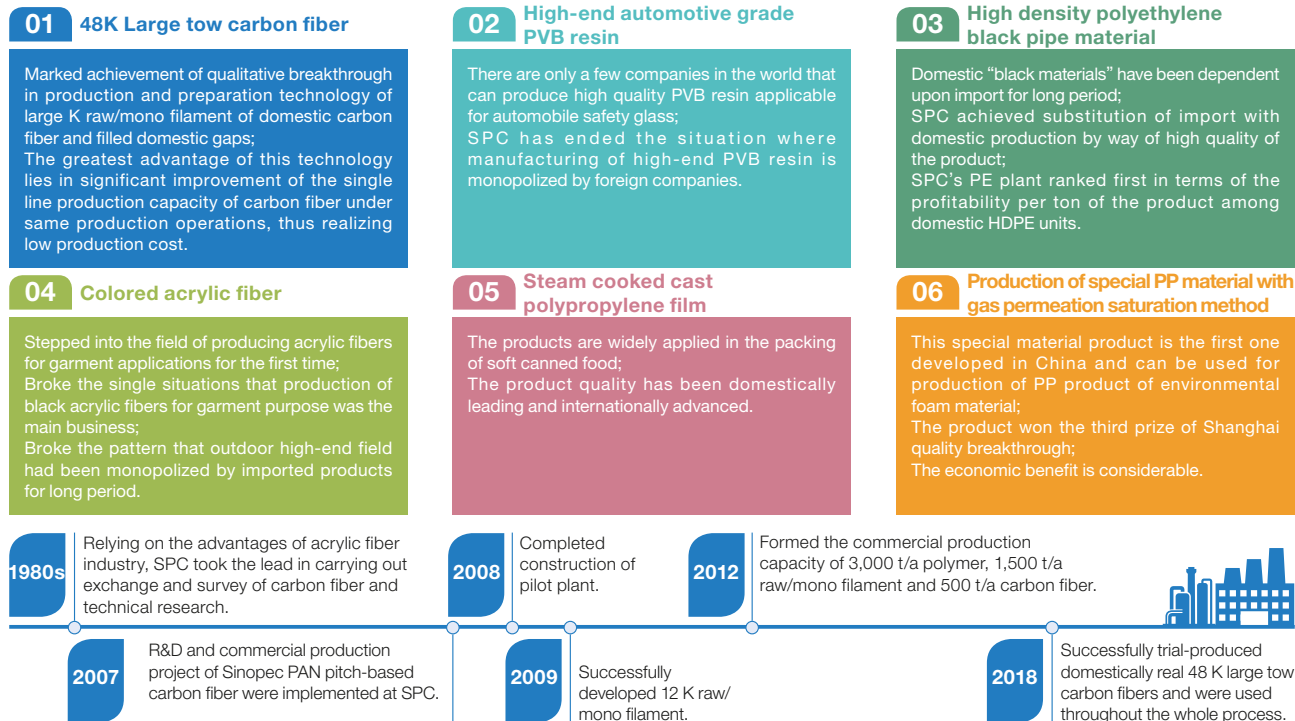
## Number of inventive patent applications



## Focus on industrial high-end development demand

Closely centering on the conflict between high-end development demand of chemical industry in China and deficiency of technological innovations, focusing on development of high performance advanced materials, high value-added synthetic materials and advanced

technology of fine chemical engineering, SPC successfully researched and developed series of advanced products that filled domestic gaps in 2018, thus making contributions to improvement of the self-efficiency rate of advanced materials in chemical industry of China.



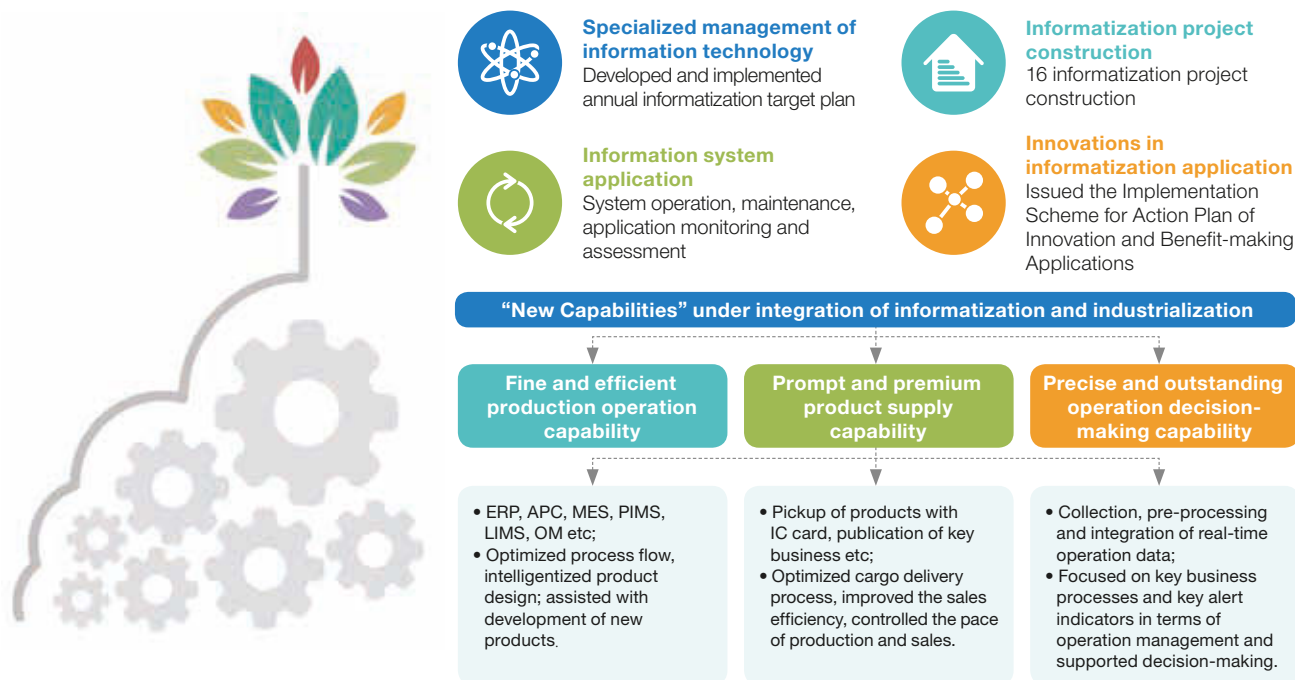
10 years persistence led to success 48K large tow carbon fiber came into being.

SPC's project of “PAN based large tow raw/mono filament and carbon fiber technology and process package development” passed domestic authoritative panel identification. The overall technology of large tow reached internationally advanced level.

# Build smart plant

Directed by a series of standard systems for integration of informatization and industrialization issued by the Ministry of Industry and Information Technology of the People's Republic of China, including GB/T 23000-2017, GB/T 23001-2017 and GB/T 23003-2018, SPC boosted information construction in an all-around way, deeply drove the building of smart plant, fostered new capability that is compatible with enterprise strategy and has sustainable competitive advantages and promoted SPC's intelligent manufacturing progress in 2018.

In 2018, SPC's Petrochemical Smart Plant Pilot Demonstration project was selected to enter the list of 2018 intelligent manufacturing pilot demonstration projects (Gong Xin Bu Zhuang Han [2018] No. 343 Document) issued by the Ministry of Industry and Information Technology. The Company applied for re-assessment of "informatization and industrialization integration" and the result of on-spot supervision and audit was "recommended to maintain".



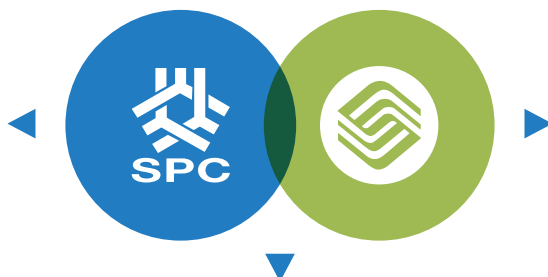
## Rollout of SPC geographic information platform

The geographic information platform deeply integrates the information of material in kind with geographic information, which realizes smart and interactive close relevance between materials in kind and specialized system data and implements data sharing among all specialized systems.



## SPC

Commenced the use of system applications such as monitoring of oil transfer line, vehicle transport monitoring, wireless video surveillance etc; Built emergency commanding system, intelligent shutdown system, energy consumption monitoring system, universal card and other platforms.



## Shanghai Mobile Communication Co., Ltd.

High-speed 4G network; Channel encryption, storage encryption, mobile device management and other advanced technologies.

## SPC cooperated with Shanghai Mobile Communication Co., Ltd. to boost construction of "smart plant"

Both parties will jointly boost deep application of communication and information technology in SPC's construction of "smart plant", build high efficient, energy saving, green, environment friendly and humanized intelligent park.



## Create Value in Good Faith

SPC adheres to the operation concept of “operating business in good faith and cooperate for win-win” and jointly creates value with customers and suppliers. It also studies and judges the market and provides the customers with high quality products, specialized and standardized all-round service. Guided by green development in a whole-process, whole-chain and whole-link manner, SPC has realized win-win cooperation in terms of supply chain.

01 Jointly create value with our customers

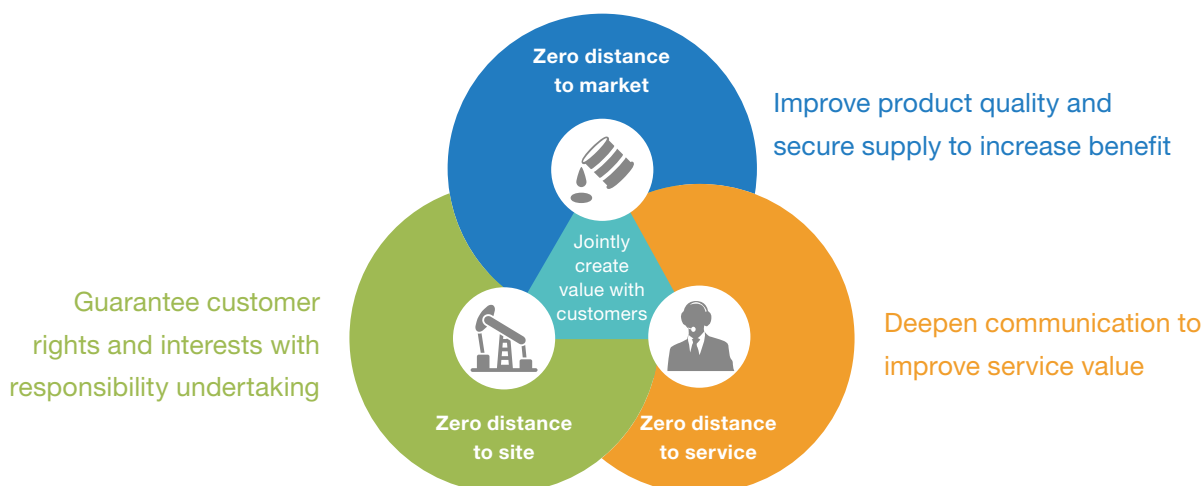
02 Cooperate for win-win in supply chain



# Jointly create value with our customers

In 2018, SPC abided by laws and regulations, including the Product Quality Law and the Standardization Law, set up the ideology of “market is life engineering, customers are important resources”, studied and judged the domestic and international market situations by considering “zero distance to market, zero distance to service and zero distance to site”

as the fulcrum, provided high quality products to customers; deepened communication to improve service value and provided specialized and all-round service to customers; kept on improving the product satisfaction, performed marketing and sales with responsibility, maintained customers' rights and interests and jointly created value with customers.



## Improve product quality and guarantee supply to increase benefit

① Predicted, studied and judged the market situations, improved the profitability

In 2018, SPC founded a market predicting team composed of members from multiple divisions, established multi-dimensional market prediction system to study and judge the market situations, adjusted the product sales strategy in a timely manner and continuously improved the product market transformation capability and the company profitability.

② Optimized product mix, improved quality and secured supply to increase benefit

SPC optimized the product mix and endeavored to create benefit in accordance with changes of the state environmental requirements and the market supply & demand; seized the market opportunities to improve product quality and grade, secured the market supply and increased the market shares.



### Promoted cooperation, competitiveness and marketing strategy

Guided by customer demand, SPC carried out MPRC (market-production-research-customer) group activities to cooperate with back-end customers for development of products and markets, assisted customers with product performance test and product development, thus facilitating “win-win” and improving the competitiveness of new products.



### Upgraded national VI standard gasoline and diesel and ensured market supply

SPC successfully completed upgrading of national VI standard gasoline and diesel and launched the products to Shanghai market in August 2018, which was 42 days earlier than the date required by Shanghai municipal government. The standard of SPC's national VI gasoline and diesel is more stringent than that of European VI standard and its blending capacity can guarantee full refueling of more than 1000 general family cars per hour, which can further reduce Shanghai external purchase demand of national VI standard gasoline and diesel.

### ④ Established linkage mechanism, smoothened market channels

In 2018, SPC took the initiatives to adapt itself to domestic and international market demand as well as the requirements of product quality indicator control, established the linkage mechanism for domestic and foreign trade, implemented seamless interfacing of product storage and transport at home and abroad, successfully developed international market, consolidated and improved international market shares.

SPC clearly judged the international trading situations and won the lawsuit of "anti-dumping case of acrylic fibers" filed by India against China under the situations of adequate arguments and sufficient evidence. As a result, there is no need for the acrylic fiber producers of China to pay anti-dumping duty.

### ④ Boosted online transactions, provided value-added service

In 2018, SPC continued boosting "internet plus" marketing mode, innovated network sales tools and expanded new channels for online product transactions; persisted in adopting fair auction method to reach the best price with the customers that was satisfying to both parties and realized added-value of both products and services.

### Signed factoring cooperation agreement with EPEC

In 2018, SPC concluded commercial factoring business service contract with EPEC platform for implementation of online operations of such sales processes as SPC's business purchase orders, receivables etc., provision of online purchase service, assistance with SPC's suppliers to solve financing problem, thus realizing ecological collaborative win-win of supply chain. SPC's utilization rate of EPEC platform reached 100% in 2018.



Co-construction between SPC and EPEC for in-depth integration



## Deepened communication to improve the service value

### ④ Provided all-dimensional high quality service

SPC gave full play to the advantages of state-owned enterprises, deepened the information communication, established critical product follow-up mechanism, provided the customers with all-dimensional specialized pre-sale, in-sale and after-sale service, facilitated benefit with premium service and improved the sales volume of benefit products.

### Deepen application of information technology and improve customers' expectations to product value

#### Promote application of intelligent sales and service at SPC

Starting with the sales business link, SPC improved the customers' experience with SPC's intelligent sales service through SPC's Self-service Cargo Pickup System Development project.

#### Extend deepened application of cargo pickup management system with IC card

SPC continued expanding the application scope of queuing service in IC card-based cargo pickup management system, which eliminated the potential danger in product transport to a certain extent.

#### Establish division interfacing and counterpart connection system

SPC earnestly carried out interface with various functional divisions and established the counterpart connection system with harbor related authorities, thus continuously improving the customer service efficiency.

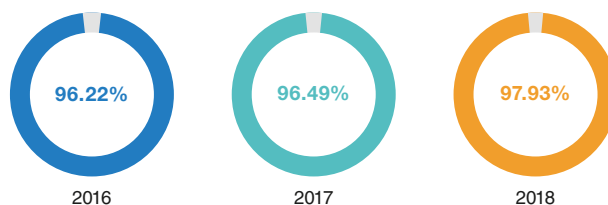
#### Establish all-round and systematic communication mechanism

SPC formed an all-dimensional and systematic communication mechanism of "routine contact, regular communication and summit talks", boosted synergy of production and sales and jointly created value with customers.

### ④ Quick response to improve product satisfaction

In 2018, SPC established specialized sales service work group composed of members from multiple divisions, set up platforms for frequent communication, established quick response mechanism for customer service and informatization process for handling customer complaints, so as to improve the efficiency of response to customer service and the customers' product satisfaction.

### Mean value of SPC product satisfaction (%)



## Responsibility undertaking to guarantee customer rights and interests

### ④ Intensified legal compliance and improved sales system

In 2018, SPC implemented the learning of byproduct compliance sales related laws and regulations to keep on improving the enterprise awareness of enterprise environmental protection laws; The Company revised and perfected SPC Detailed Rules for Product Sales Management, carried it through the sales business process together with new version of internal control management system and strengthened the awareness of risk prevention and control.

### ④ Secured the customers' rights and interests as well as information security

SPC organized honest employment training for multiple times throughout the year and signed 182 annual Statements of Honest Employment Responsibility with customers. We expanded the channels to acquire information of new and regular customers and concluded confidentiality agreement with every salesman to protect the customers' information security.

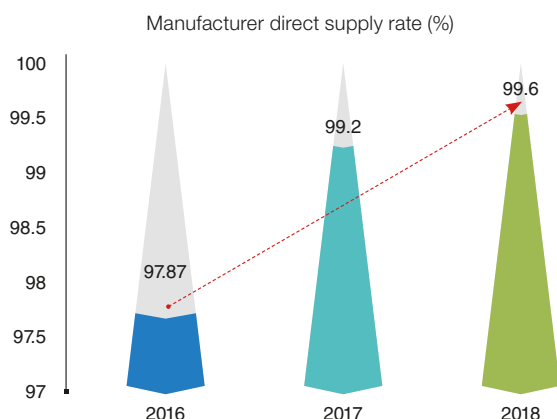
# Win-win cooperation in supply chain

In 2018, SPC continued abiding by the Guidelines for Enterprise Green Procurement (Tentative), advocated the work concept of “preciseness and pragmatism, win-win cooperation”, responded to the requirements of Notice on Implementation of Innovations in Supply Chain and Application Pilot issued by such eight authorities as the Ministry of Commerce etc. to improve the supply chain management level, constructed the information platform of supply chain, built “sunshine supply chain” with suppliers, cooperated to fulfill the social responsibilities and implemented win-win cooperation in supply chain.

## Improved the supply chain management level

① Strengthened the supplier management and optimized the supply resources

In 2018, SPC continued to reduce reseller purchase, promoted procurement through public inquiry and price comparisons, directly introduced manufacturer purchase. As a result, the manufacturer direct supply rate rose to 99.6%; The company strictly followed “zero” report system, established the operation mechanism for reward and punishment of suppliers. The suppliers’ ISO14000 environmental management system certification reached 54.1%.



② Deepened purchase strategy and improved purchase efficiency

SPC legally promoted purchase by way of the framework agreement and public bidding and expanded the bidding purchase scale through “alliance of bidding, expansion of market and creation of benefit”; implemented special activities of bidding management of material purchase to improve benchmarking and improved the efficiency of purchase through bidding.

In 2018, SPC purchase rate through bidding reached 90.47%, bidding success rate reached 91.26%; both the purchase contract performance rate and the percentage of green purchase funds reached 100%. The annual saving rate of purchase funds was 7%.

③ Improved the material purchase quality management system

In 2018, SPC revised SPC Rules on Management of Material Procurement Quality to further define the job duties of various stakeholders in material supply chain and optimize the procurement quality management mode; strengthened the service quality management and achieved all-staff participation and whole-process control, thus constantly improving the procurement quality management.

## Four actions to optimize purchase quality management



### Define standards

Revised the material purchase standard and the inspection plan, developed Provisions for Punishment of Suppliers due to Quality Problems, defined the responsibility for punishment of quality problems and the assessment methods.

### Secure acceptance

Worked out the inspection plan for suppliers’ quality assurance system and increased the strength and frequency of supervision.

### Create archives

Established electronic archives for quality problems for real-time inquiry, updating and retrospecting.

### Implement assessment

Took advantage of interview for communication, on-spot assessment, dynamic scoring and other means to constantly supervise and urge the suppliers with quality problems to implement rectification measures.

## Warehouse management for informatization supply chain

In 2018, SPC intensified the time efficiency management for material warehouse, pushed forward construction of “intelligent material management system”, implemented “storage by the supplier” and online management of the whole process for “the valueless” materials by adoption of the material coding and sharing the data platform, optimized the inventory materials, reduced the overstocked products, achieved “storage by supplier” by annual 74.98 million RMB; The sum of annual “modifications for substituted utilization” amounted to 2.23 million RMB.

## Cooperated with supply chain to perform social responsibilities

④ Built sunshine supply chain and jointly established clean governance and anti-corruption system

In 2018, SPC carried out special rectification campaign for prevention of “micro-corruption”, explored the supervision mechanism of Party style and clean & honest administration supervisor in purchase and bid process and jointly built “the sunshine supply chain” with suppliers.

SPC intensified the awareness of honest employment throughout the supply chain, signed statement of responsibilities with suppliers and contractors to solidify their rights, duties and interests, implemented interview about clean & honest administration, thus jointly building a defensive line against corruption.

⑤ Intensified contractor management and strengthened HSSE management system

In 2018, SPC perfected HSSE management committee system and implemented HSSE responsibility system. The Company incorporated contractors into HSSE management system and developed SPC Detailed Rules on Implementation of Contractors’ Safety Supervision and Management and SPC Regulations on Management of Points for Assessment of Contractors’ HSSE Violations. The Company implemented contractors’ pre-job self-inspection of safety and carried out safety precautionary education and training, thus realizing safe and green development of supply chain.



## Develop Business through Win-win Cooperation

As the first listed company listed in the stock markets in Shanghai, Hong Kong and New York, SPC strictly abided by the securities supervision rules and regulations of the listing exchanges, strictly executed financial audit system and information disclosure system, continuously perfected the governance structure, optimized operations, improved investors' relationship management, so as to safeguard the investors' rights and interests, improve the corporate business performance and realize win-win cooperation.

01 Improve business performance

02 Safeguard investors' rights and interests



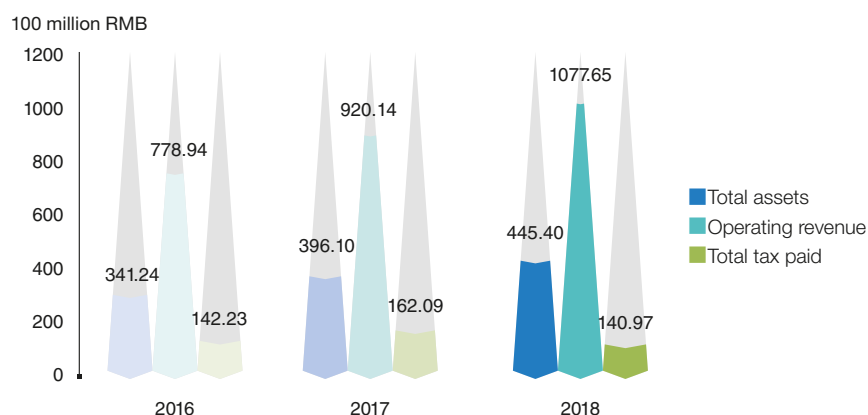
# Improve business performance

In 2018, the international oil prices went up first and then down. The number of output reduction countries, in which Saudi Arabia was predominant, had been far from the market expectations in the first three quarters, so the international oil prices went up in a swinging manner. Ever since the fourth quarter, the crude oil demand had been lower than expected, so the international oil prices were

declined significantly and the corporate business was encountered with challenges. Faced with complicated and changeable market situations, SPC started with self-operations and endeavored to implement cost reduction and benefit improvement and improve the corporate business performance.

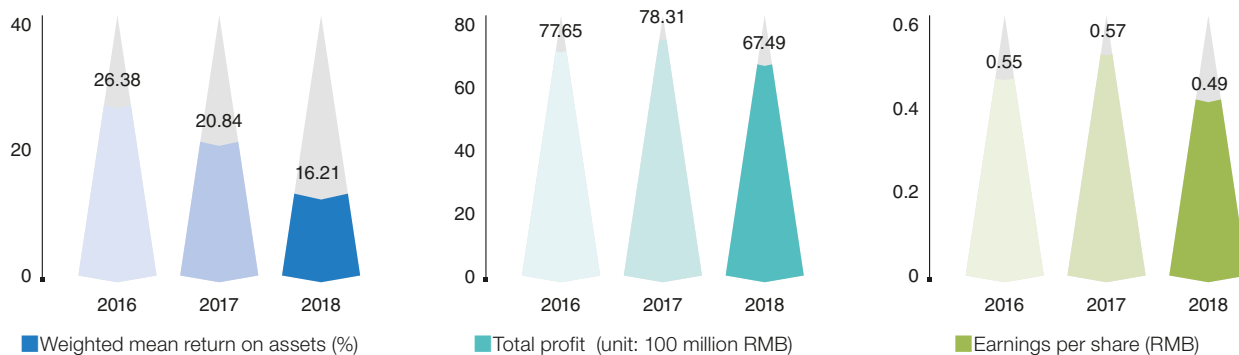
## Business growth

SPC's state of business was good in 2018. The total assets and operating revenue slightly increased. The total tax paid was slightly decreased.



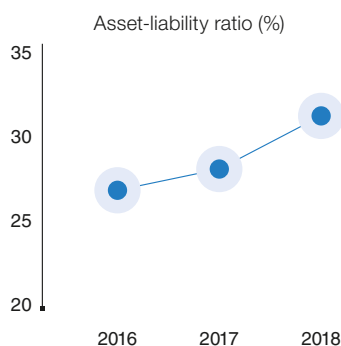
## Operation income

The international oil prices went up first and then down in 2018, so the market business environment was faced with challenges and the corporate performance was slightly decreased.



## Financial security

In 2018, SPC's asset-liability ratio was stable, amounting to 31.55%.



## Cost reduction and benefit improvement

Faced with complicated market, business environment as well as domestic and international situations in 2018, SPC always centered on improving the quality and benefit, adhered to market orientation, focused on improvement of management level, facilitated the scientific and technological progress at SPC and endeavored to achieve cost reduction and benefit improvement.

### Adhered to market orientation

Considering maximization of economic benefit as the target, the Company has always adhered to the market orientation: continuously calculated the product marginal benefit status, optimized the product mix, increased market supply of scarce products and improved the corporate economic benefit.



### Facilitated technical progress

SPC strengthened the strength of technical innovations to improve the product added-value: adhered to integration of production, marketing and research into one body, pushed forward development of new products, set foot in strategic development, promoted project implementation; intensified support to scientific research and motivated momentum of innovations.

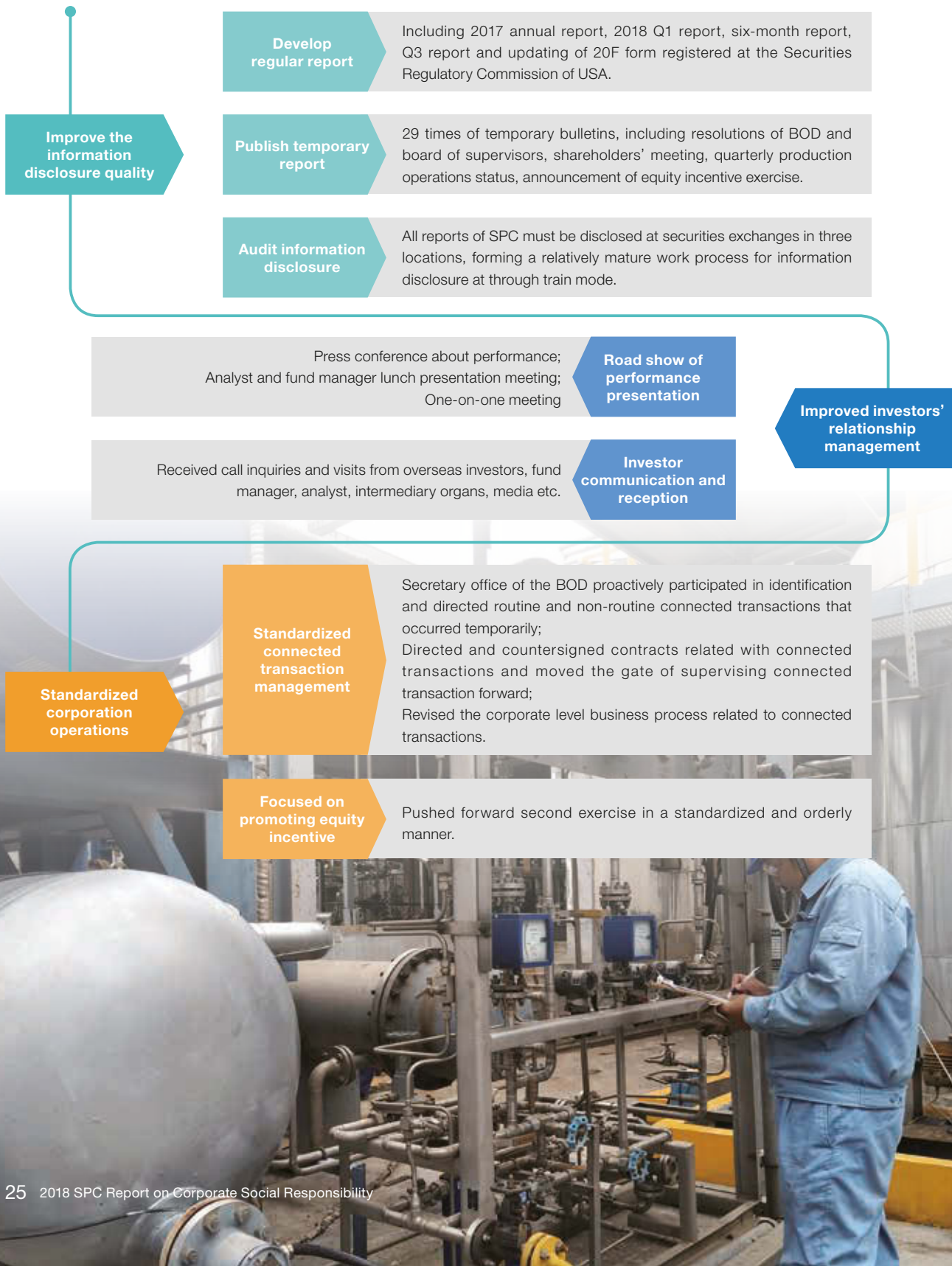
### Improved management level

SPC stressed operation management and focused on improvement of management level: organized functional divisions to exchange with and learn from advanced enterprises; tamped the foundation of refined management, intensified building of management and optimization work group.



# Safeguard investors' rights and interests

The Company adhered to securing information disclosure quality, strengthened communication with investors, standardized corporation operations, improved corporate governance level and safeguarded investors' rights and interests while improving business performance.







## Refined Operations, Safety and Green Development

SPC deeply carried out green development concept, strictly implemented all the work safety management systems, kept the record of zero incident of work safety and environmental pollutions for consecutive years, prevented and reduced adverse impact to the natural environment brought about by production operation activities, thus achieving the company's harmonious development with the nature.

- 01 Strengthen safety management
- 02 Intensify environmental protection
- 03 Develop recycling economy
- 04 Boost low carbon development



# Strengthen Safety Management

Wu Haijun, Party Secretary and chairman of the Board of SPC stressed that safety and environmental protection is crucial for SPC further development.

In 2018, SPC paid more attention to intensification of the sense of responsibility, the sense of mission and the sense of urgency for safety and environment management, strictly implemented the work safety management requirements of "identical responsibility for Party and government offices, dual duties for one position", took many safety management measures, including overall split and implementation of entity responsibility for safety management, intensification of work

safety management and comprehensive treatment of hazardous chemicals, enhancement of identification and control of safety risks as well as investigation and elimination of potential safety hazards, overall improvement of process safety management techniques and innovations of management systems, adhered to the safety management problem orientation, focused on beforehand prevention to effectively prevent occurrence of various incidents. In 2018, SPC didn't have any major or extra serious incidents of work safety, occupational poisoning and environmental pollution, achieved the indicator of "seven zeros" in HSSE management and HSSE generally presented a stable tendency.



## SPC's overall split and implementation of entity responsibility for safety management

SPC established perfect main framework for safety management, implemented the responsibilities level by level, from the leadership to management staff and first line employees, split the work safety responsibilities, extended and implemented the same at every level. The company implemented the work safety management requirements of "identical responsibility for Party and government offices, dual duties for one position". The corporate

level leadership members, corporate principals and leadership members at other levels made commitment of safety, split the entity responsibility of safety management level by level and strictly performed the requirements of "investigating and affixing the responsibility for non-actions and also for those who don't implement the entity responsibility of work safety".

### Corporate framework of work safety



## Strengthen work safety management and comprehensive treatment of hazardous chemicals

### Five regulations on work safety management of hazardous chemicals

Organized and implemented the development and amendment of five regulations, including SPC Regulations on Management of Hazardous Chemicals, Safety Management Measures for Leakage, SPC Detailed Rules on Implementation of Safety Management for Handling Operations of Tank Trucks of Hazardous Chemicals, SPC Detailed Rules on Implementation of Safety Management of Hydrogen Sulfide, SPC Regulations on Safety Management of Production, Operation, Transport & Storage of Liquid Ammonia.

### Reported the quarterly comprehensive safety treatment of hazardous chemicals to higher level

Implemented and summarized the rectification measures of every responsible divisions and reported the same to Sinopec group Company's administration of safety supervision in combination with 13 lists of rectifications specified by SPC Implementation Scheme for Comprehensive Treatment of Hazardous Chemicals.

### Submitted the annual report by precursor chemicals production and operation organizations

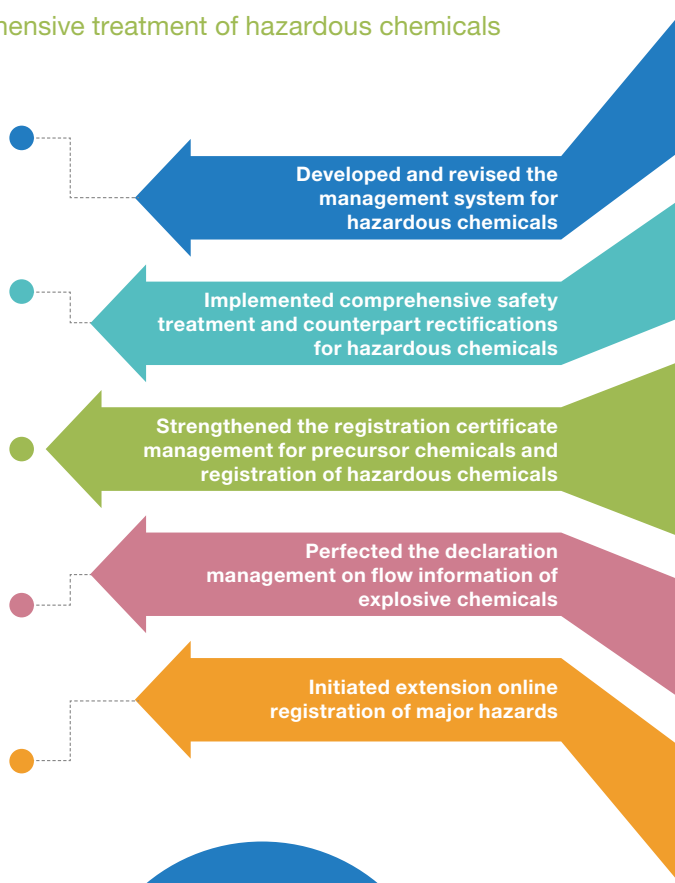
In light of the situation that SPC registration certificate for production of precursor chemicals will be expired soon, SPC completed the form at the website of State Administration of Work Safety, submitted the application for renewal of the registration certificate and re-obtained the production registration certificate. In light of the situation that the business registration certification had been expired, it was written off after repeated verification and confirmation by various divisions. Carried out online registration and declaration of new varieties of hazardous chemicals.

### Strengthened management of flow information about explosive chemicals

Verified and investigated precursor chemicals in accordance with the Directory of Explosive Chemicals (2017 revision). Used online Shanghai Municipal Information System on Flow Management of Explosive Chemicals, supplemented and perfected the information on flow of explosive chemicals.

### Perfected registration of major hazards for record

In total, SPC had completed registration of 30 sets of major hazards (including investment and development company), including 12 sets of class 1 major hazards, 3 sets of class 2 major hazards, 12 sets of class 3 major hazards and 3 sets of class 4 major hazards.



## Strengthen identification and control of safety risks as well as investigation and elimination of potential safety hazards in an all-round way

Potential hazards of safety risks are potential dangers leading to incidents. No safety can be assured, if potential hazards are not eliminated. SPC requires all units to ensure to mitigation of potential safety hazards to the minimum by organizing assessment of risk identification, implementing identification and control of safety risks at various levels, mobilizing all staff of various divisions to find out various potential hazards in production operations and construction activities and carrying out elimination of potential hazards.



## Comprehensive improvement of technical level for process safety management and innovations in management systems



### Hanging of “Double Boards” System for Safety Management

To avoid mis-operations by construction workers, the steam turbine complex of SPC thermal power division hung the warning boards confirmed by the complex and the construction contractor at the isolation position of the overhauled piping valves for the first time. The thermal power division added “double insurance” for the construction safety with the measure of hanging “double boards” and also fills the “gap” of safety for similar overhaul projects in the future.

### Pilot Promotion of Process Safety Management

As a result of investigation and survey, SPC proposed the pilot scheme for implementation of process safety management and initiated the arrangement of two-way learning by taking a temporary post at the counterpart company to boost implementation of process safety management, so as to draw on the experience of Shanghai SECCO Petrochemical Company Limited gained in terms of the process safety management and further improve the process safety management at SPC through pilot activities.



### All-staff Drilling for Technical Contest of Safety Management

SPC organized various divisions to carry out all-staff drilling for technical contest of safety management. Based upon turnaround at 2# EG unit and in light of the weak links and deficiencies existed in turnaround, the production technology, equipment management and safety management personnel of Chemical Division focused on overall inspection and elimination of potential hazards at the job site to significantly improve the safety management and ensure safe and stable operations of the production unit.

### Strengthening of Contractors’ Interview of Safety Management

The Olefin Division of SPC carried out “Safety Orientation Interview” in batches for the principals of major contractors who participated in turnaround at new area, with the interview items mainly including such 16 contents as the principals’ duties and main assignment, clarification of the construction scheme, understanding of the turnaround risks etc.. Those who failed to pass the interview should attend make-up examination till they passed. By way of one-on-one interview, it can test the preparation status of the principal of the construction contractor for the turnaround, disseminate the safety situations and improve their attention to the construction safety.



### Establishment of SPC Full-time Fire Brigade

New Fire Detachment and Weiba Fire Detachment of Jinshan Fire Brigade held the shifting and handover ceremony with SPC full-time fire brigade, marking that Jinshan Fire Brigade’s stationing at SPC for 45 years for fulfillment of firefighting assignment came to an end. The task of stationing at SPC for firefighting will be fully undertaken by SPC full-time fire brigade in the coming years. The full-time firefighters will be stationed at SPC in three batches and the brigade will be eventually composed of 231 members.



# Intensify Environmental Protection

SPC has always attached great importance to environmental protection by promoting HSSE management system, persisting in combination of cut-down from the pollutant sources, process control and terminal treatment. The company has cumulatively implemented

107 environmental governance projects over the past five years and invested 2.5 billion RMB for environmental governance to spare no efforts to build a green petrochemical plant.

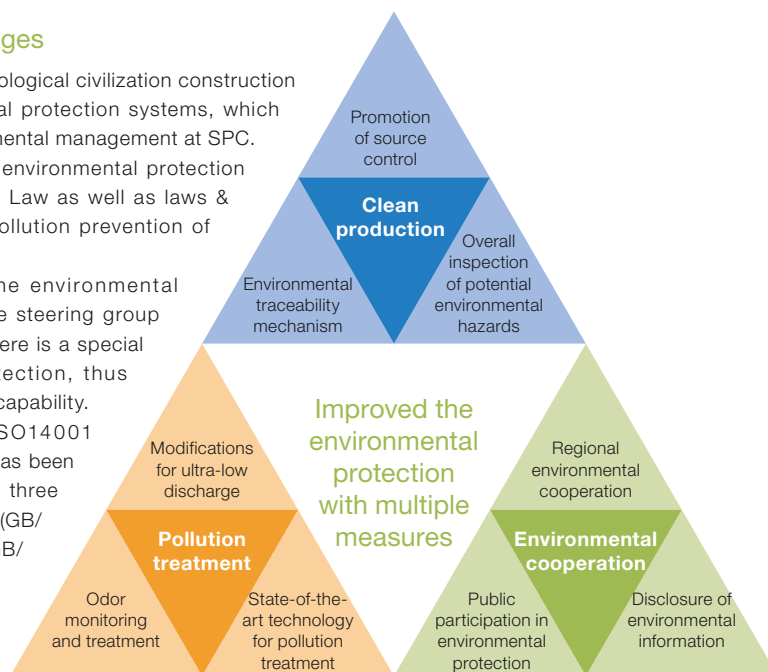
## Proactively meet the environmental challenges

The Chinese government vigorously promotes ecological civilization construction and implements increasingly stringent environmental protection systems, which proposes more stringent requirements to the environmental management at SPC.

SPC proactively responded to state policies of environmental protection and strictly abided by the Environmental Protection Law as well as laws & regulations and normative documents related to pollution prevention of atmosphere, water and soil.

The Company established and perfected the environmental protection management system and established the steering group for establishment of green enterprise, under which there is a special work group for promotion of environmental protection, thus constantly improving the environmental management capability.

The Company continuously implements ISO14001 environmental management system certification. SPC has been awarded with the authentication certificates of such three standards as quality (GB/T19001 2008), environment (GB/T24001 2004) and occupational health and safety (GB/T28001 2011) issued by Shanghai Quality Audit Center.



## Intensified clean production from the sources

### ① Continuously strengthened control from the sources

SPC strictly implements “three simultaneities” for the environmental protection in construction projects to eliminate the potential environmental hazards in the later period of project construction and after the project plant is put into operation.

The Company continuously carries out “clean production month” program and has consecutively passed Shanghai municipal clean production audit and acceptance for several times.

SPC has put into operation of the first domestic set of environmentally friendly closed decoking project to intensify control from the pollution sources, which is simultaneously designed and constructed from production, storage, transport to waste gas treatment.





#### ④ Established traceability mechanism for environmental protection

SPC strengthened supervision of environmental monitoring facilities and achieved 100% of the online environmental data transfer rate. The Company strictly followed the Working Mechanism for Traceability of Atmospheric Automatic Station Alarms, standardized the working process for tracing of abnormal data and provided technical support of data to the source control.

#### ④ Carried out overall inspection of potential environmental hazards

SPC leader in charge of environmental protection holds weekly meeting for environmental protection projects to intensify the process management for environmental projects. In 2018, 66 potential environmental hazards were investigated, in which 63 items were completed with rectifications in the same year and the remaining 3 items were completed beyond the year of 2018.



### Deeply carried out environmental cooperation

#### ④ Regional cooperation

SPC initiated the second round of integrated environmental improvement at Jinshan District (2018-2020), intensified activities at such three aspects as the industrial upgrading, environmental improvement and operation management, completed 13 integrated environmental improvement projects and held joint meeting for regional environmental protection to promote regional environmental cooperation.

#### ④ Public participation

SPC fulfils the concept of “operating business to the public in an open manner” and has cumulatively carried out 107 sessions of “Public Open Day” programs. Cumulatively over 3,600 people/times public has participated in the exchange, which effectively facilitated positive interaction between SPC and the public.

#### ④ Information disclosure

The Company has developed SPC Regulations on Information Disclosure Management. The monitoring information, pollutant discharge information and environmental impact assessment information for construction projects are disclosed on SPC Intranet and the platform for disclosure of pollutant detection information of Shanghai key supervision enterprises.



### Strengthened terminal treatment of environmental pollutions

#### ④ Implemented modifications for ultra-low discharge

SPC carries out modifications of boilers for desulfurization, denitration and dedusting, one boiler and one tower and ultra-low discharge of boilers. The last boiler underwent the low-extra discharge modifications in 2018. As a result, the boiler pollutant discharge concentration has met Shanghai updated environmental standard.



### ④ Enhanced odor monitoring and treatment

SPC continued boosting integrated treatment of Volatile Organic Compounds (VOCs) in 2018, intensified boundary traceability and investigations, carried out the campaign of “seeking the odor by all staff”, implemented odor leakage detection and repair (LDAR) and incorporated the results of LDAR into safety and environmental performance assessment. As a result, the discharge of VOCs was decreased by 6.22% on a year-on-year basis; the boundary concentration of VOCs was 131.7μg/m<sup>3</sup>, decreased by about 6.3% on a year-on-year basis. Complaint about SPC boundary odor was significantly reduced.

### ④ Adopted cutting-edge technology for pollution treatment

SPC implemented “standard improvement and upgrading modification project for external discharge of sewage” and “Phase II project for in-depth treatment and recycling of sewage”. As a result, the sewage pollutant removal depth has reached class 1 criteria as specified by the Industry Pollutant Discharge Standard for Petroleum Refining (GB31570-2015).



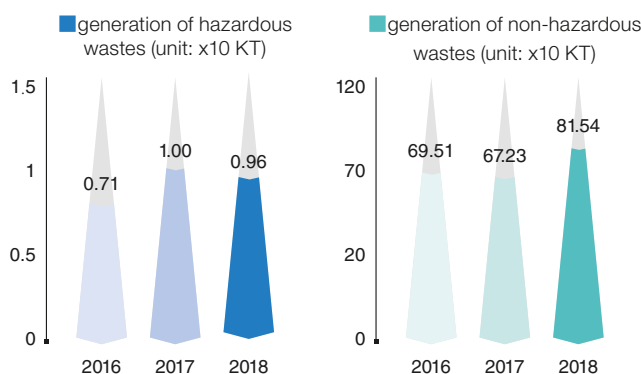
▲ Set up biological observation point at waste water discharge port

Pollution type	Treatment measures	Treatment effect
Waste gas	Enforced SPC Management Regulations on Prevention and Control of Waste Water Pollutions. The waste gas is discharged legally with license. All the boilers have been completed with modifications for ultra-low discharge.	External discharge of waste gas is effectively controlled and the compliance rate reaches 100%
Waste water	Built 60 water quality monitoring points, installed 8 sets of waste water pre-treatment facilities, 2 sets of in-depth treatment devices and 2 sets of reuse water treatment systems.	The compliance rate of external discharge of waste water reaches 100%
Noise	Performed regular monitoring management of plant boundary noise, completed 306 sets of noise monitoring data, modified high noise equipment and optimized the operation procedures.	Noise compliance rate reaches 100%
Hazardous wastes	Enforced SPC Management Regulations on Disposal of Solid Wastes, entrusted the third party for disposal, worked out emergency plans and organized spot checks and repeated visit.	Appropriate disposal rate of hazardous wastes reaches 100%

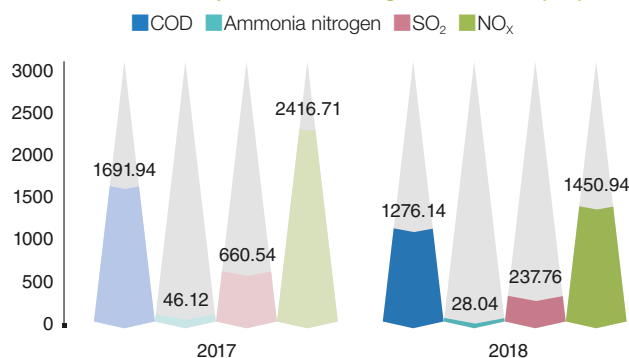
### Impact to natural environment has been continuously mitigated

In 2018, the Thermal Power Division cleaned the ash yard, so the volume of outgoing delivery and disposal of slag was increased and the generation of non-hazardous wastes was 815,000 tons and appropriate disposal of non-hazardous wastes reached 100%. The generation of hazardous wastes was 9,600 tons and appropriate disposal rate of hazardous wastes reached 100%.

SPC began to adopt the field measurement method for accounting of the pollutant discharge in 2018. The discharge of four kinds of pollutants, including chemical oxygen demand, ammonia nitrogen, sulfur dioxide and nitrogen oxides was reduced by 24.58%, 39.20%, 64.01% and 39.96% on year-on-year basis, respectively.



### SPC Measured pollutant discharge in 2017-2018 (ton)



# Develop Recycling Economy

SPC strictly abided by the resources utilization laws and regulations, including the Water Law, the Circular Economy Promotion Law etc., promoted the supply side structural reform and implemented steady improvement of recycling and comprehensive utilization of resources through technological innovations, process innovations and management innovations, thus becoming an important bearing zone of world-class green chemical industry cluster in Shanghai.

## Continuous improvement of resources utilization efficiency

SPC industry water is sourced from the surface water, while the domestic water is supplied by municipal water supply of Jinshan district. SPC water intakes Zhangjing River and Zishijing River have possessed the water intake permit granted by Shanghai Municipal Water Supplies Bureau.

To ensure the strategic water source safety, SPC strictly followed the most stringent water resource management system in Shanghai, explored sustainable water resource management measures and implemented water saving and recycling with great efforts. SPC

strengthened linkage cooperation with Jinshan District and Pinghu City and intensified risk control for water environment to ensure the water quality of SPC water intake.

SPC industry water intake quantity was reduced by 5.06% and domestic water consumption was reduced by 5.38% on a year-on-year basis in 2018. SPC main water consumption indicators had satisfied the performance assessment requirements of Shanghai municipal government.

SPC major water resource utilization indicators

Indicators	2016	2017	2018
Fresh water consumption (10KT)	5762.28	6027.05	5939.96
water consumption per unit output value (t/10 K RMB)	5.46	5.64	5.27
comprehensive recovery and utilization of sludge (10 KT)	1.53	1.31	1.71
repeated utilization rate of industry water (%)	97.38	97.24	97.56

SPC strictly followed the requirements Shanghai Municipal Provisions for Quantity Reduction of Commodity Packages and reduced the volume and weight of the packaging materials as far as possible under the premise of ensuring the function of package protection, thus saving consumption of resources and energy.

## Implementation of emission reduction and benefit improvement through technical revamping

Considering technical revamping as the source to maintain corporate vitality, SPC benchmarked international and industrial advanced level to promote modifications of such equipment as oil vapor recovery,

sewage reuse and recycling of condensed water. As a result, the main pollutants, such as VOC, sulfur dioxide etc. were significantly reduced and the clean production level took the lead in industry.

### Promote waste gas recovery through revamping of oil vapor recovery unit

SPC oil vapor recovery unit is designed and constructed strictly in accordance with environmental protection requirements, which will significantly reduce VOC emissions. The waste gas from the oil storage tanks will be completely sent to the recovery unit for treatment and VOC removal rate will reach above 97%.

### Facilitate recycling of condensed water through steam substitution project by water

SPC facilitated recycling of condensed water by substituting steam with water at coking unit, which can save about 6 t/d steam, equivalent to saving of steam by about 2100 t/a. As a result, the comprehensive energy consumption at the unit is significantly decreased.

### Facilitate water recycling through sewage reuse unit

SPC made improvement of sewage reuse unit to improve the waste water recycling rate, including oily waste water system rectification project, heavy metal removal project from waste water of the polyester oxidation unit, sewage split flow for waste water treatment workshop, biochemical sludge reduction project at waste water treatment workshop. The sewage reuse rate in 2018 reached 23%.

### Facilitate offgas recovery through sulfur recovery unit

Through following measures, such as additional installation of scrubbing and absorption tower, slurry sprinkling system, water makeup system, demisting system etc., sulfur dioxide is absorbed from the offgas, thus the concentration of sulfur dioxide in sulfur offgas is reduced from 200 mg/m<sup>3</sup> to below 20 mg/m<sup>3</sup>, which is far better than the emission standard of 100 mg/m<sup>3</sup> specified by state environmental authorities. SPC's green clean production takes the lead in industry.





### Optimized process to facilitate recovery of wastes

SPC proactively boosted smart plant construction and promoted recovery of flare gas, slop oil and other wastes through optimization of operational process and process control.

#### Improved benefit through flare gas recovery

Considering targeting at “every cubic meter” emissions, catching “every penny” benefit and focusing on “every second” environmental protection as the objectives of action, SPC reduces emission of flare gas from the sources through system optimization and whole process optimization; controls the flare gas from the process through enlarging the supervision strength at division and plant levels and establishment of plant operating archives and emission logs; taps the potentials from the terminal by pushing forward continuous progressing of flare gas emission reduction. SPC facilitates desulfurization of reaction gas and purification & recovery of hydrogen. As a result, total quantity of flare gas recovery and emission reduction has reached a new height. The emission of flare gas from SPC refining division steadily went down in 2018, which cumulatively increased benefit by about 46.2384 million RMB.



#### Optimized process to recover slop oil

SPC has defined the target of “complete consumption and zero emission”, optimized the crude oil processing and production process, returned light slop oil to light and heavy gasoline cutting tower via existing pipeline by way of valve manifest and established large circulation. This scheme enables the duration for production of on-specification products to be 8 hours earlier than before. The quantity of slop oil generated is zero. It has realized more efficient utilization of resources and the plant is more environmentally friendly.



### Facilitated green development through accurate management and control

SPC highlighted fulfillment of responsibilities and pursued accurate management and control, improved benefit through management, facilitated green development through management, plotted new blue print of corporate development through management and adapted ourselves to new economic era of China through management.



#### Centralized management of cooling water achieved remarkable effect

SPC adopts centralized management of the cooling water and assigns part of cooling water units to environmental water service division. A dedicated cooling water treatment workshop is arranged to be responsible for the water quality management of SPC's 33 cooling water units, 2 sets of purified water units and 1 set of condensed water unit. The Company intensified technical management and improved fresh water makeup rate. Since implementation of centralized management of cooling water, various technical economic indicators have been significantly improved and the advantages of management have been gradually prominent. In 2018, the fresh water makeup rate was decreased by 19.21% on a year-on-year basis, consumption of industry water was reduced by 4.73% and the reuse rate of reclaimed water increased by 104.64% on a year-on-year basis.



#### Intensification of site environmental control to facilitate collection of residual materials

In consideration that it is hard to recover materials in the system and at the dead space of the pipeline, SPC installs metal tubes and temporary bucket at low points of the equipment and pipeline for collection of residual materials into the closed oil collection bucket in a timely manner. Then it is recovered into the slop oil in a centralized way. The employees' awareness of "green maintenance" has been constantly improved in the course of standardizing the process treatment.



#### Overall inspection of potential production hazards to improve hydrogen recovery rate

SPC organized overall inspection of the hydrogen purification system, calculated the material balance of the hydrogen and fuel gas system and successfully eliminated the potential hazard of sudden increase of hydrogen content in the offgas discharged from hydrogen purification system, thus assuring safe and stable production of multiple divisions, reducing abnormal loss of hydrogen, avoiding benefit loss and reducing energy waste.

#### Implementation of green shutdown through control from sources and refinement of work split

Through optimization of the shutdown scheme, intensification of process control, refinement of responsibilities and work split, improvement of preparations for shutdown and material return, strict control of temperature reduction speed, establishment of blowdown process and addition of recovery pipeline, the Company has realized standardized operations and form-based management and implemented closed material return, closed purging and closed discharge. Additionally, the Company intensifies overall inspection of gaseous phase leakage during shutdown turnaround, reduces flare gas discharge and processing loss, thus ensuring green shutdown and "win-win" of emission reduction and benefit improvement.



#### Development of organic carbon monitoring for circulating cooling water

The Company took advantage of potentials of the existing equipment, established testing procedure for routine testing of the cooler operation status, added concentration monitoring of organic carbon in circulating cooling water system for effective monitoring of inner leakage of the cooler, reduced process upset of the production units and discharge of VOC.

# Boost low carbon development

SPC strictly abided by the Energy Conservation Law of the People's Republic of China, Guidelines for Energy Conservation and Emission Reduction in Petrochemical and Chemical Industry, Shanghai Municipal Tentative Measures for Carbon Emissions and other policies and regulations, vigorously promoted conservation and recycling of energy resources, achieved the objectives of carbon emission reduction, intensified carbon asset management, conserved biological diversity and enabled green development to be SPC's core competitiveness. The Company developed SPC Scheme for

Implementation of Green Enterprise Actions and planned to complete acceptance of green enterprise establishment in 2019. The Company established the steering group for establishment of green enterprise, under which there is a special work group for green production operations and promotion of green energy, with main responsibility to eliminate backward production capacity, process, technology and equipment with low-efficiency and high energy consumption, improve the efficiency of energy utilization and reduce carbon emissions.

## Intensified energy conservation and consumption reduction

### ⑤ Enhanced performance assessment of energy consumption

The Company carried out assessment of 34 main items of energy consumption, completed assessment of 21 items of energy consumption, 15 items of comprehensive energy consumption were reduced on a year-on-year basis and 5 items of energy consumption reached advanced level in industry.

### ⑤ Carried out supervision of energy conservation

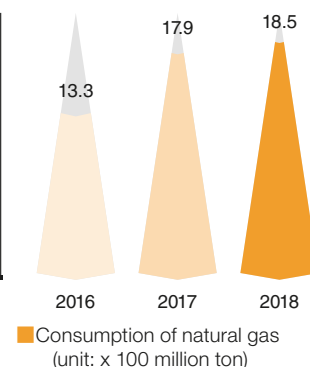
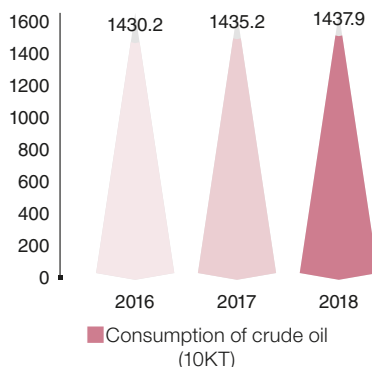
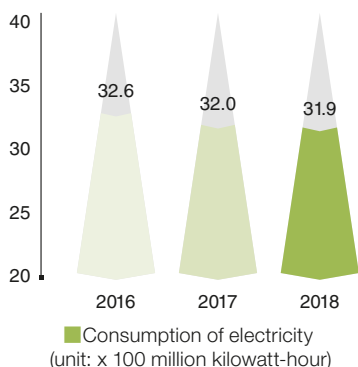
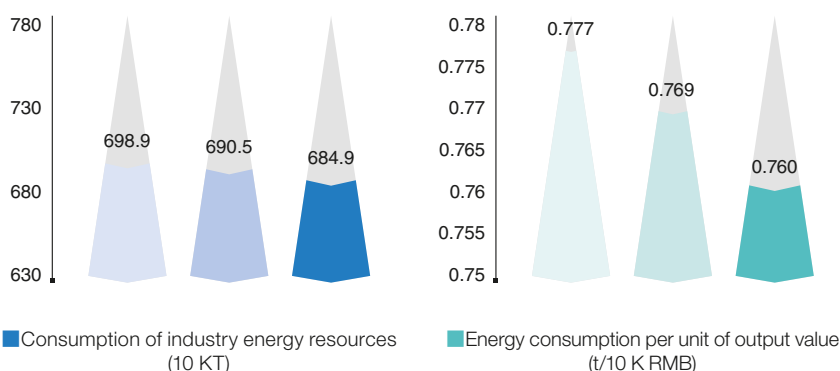
The Company carried out project energy assessment and supervision of energy conservation, completed the Report on Self-inspection of Energy Consumption Quota per Unit Product in Ethylene Unit, the Report on Self-inspection of Energy Consumption Quota per Unit Product in Oil Refining, the schedule for self-inspection and elimination of backward high energy consumption electromechanical equipment, completed field verification of energy conservation supervision.

### ⑤ Promoted technical energy conservation

The Company intensified technical breakthrough and equipment modifications, organized implementation of 9 technical revamping projects for energy conservation purpose and saved comprehensive energy consumption by 22,391 ton standard coal.

In 2018, the Company totally recovered 92.5 thousand tons of flare gas by improving the flare gas recovery capacity through such measures as emission control during plant shutdown/startup, monitoring of recovery system, flowmeter management etc. SPC total

consumption of industry energy resources was 6.849 million tons, decreased by 1.20% on a year-on-year basis. The energy consumption per output value was 0.76 ton standard coal/ 10 K RMB, decreased by 1.17% on a year-on-year basis.





## Greenhouse gas emission management

SPC's various energy conservation and consumption measures have effectively reduced the carbon emission. In 2018, SPC emission of carbon dioxide was 10.4614 million tons, the intensity of carbon dioxide was 1.19 t/10K RMB.

### ④ Carbon emission detection

SPC carries out monthly carbon verifications on a regular basis and has developed SPC Monthly Report on Carbon Emissions. SPC has completed SPC Report on Greenhouse Gas Emission and submitted the same to governmental administrative authorities.

### ④ Product carbon footprint

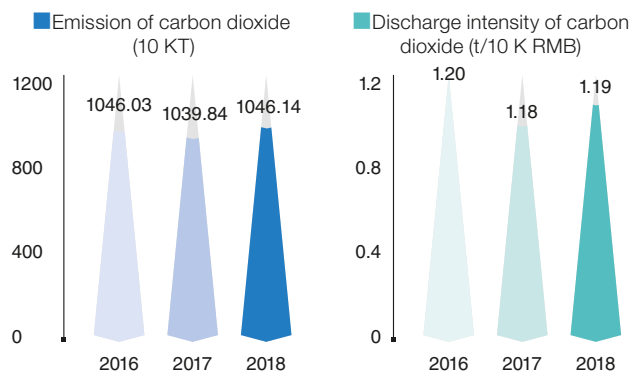
In 2018, the carbon emission per ton crude oil and feedstock oil processing was 0.127 ton and the carbon emission per ton ethylene product was 1.92 ton; the carbon emission per ton PX product was 1.807 ton.

### ④ Carbon asset management

SPC proactively responded to national carbon market construction and paid off the carbon quota at full amount on time. In 2018, SPC carried out voluntary transaction of China Certified Emission Reduction (CCER) and made a profit of over 1.3 million RMB.

### ④ Carbon recycle

SPC continuously carries out recycling of carbon dioxide. The company recycle 89.1 thousand tons of carbon dioxide in 2018.



## Protect ecological system

### ④ Ecological monitoring and repair of bay

SPC has carried out monitoring and assessment of the demersal animal community at the intertidal zone of surrounding sea area twice a year for consecutive 40 years, tracked and observed the marine ecological environment conditions, so as to provide basis for conservation of biological diversity.

### ④ Carried out afforestation and landscaping

SPC carries out tree planting activities every year. Total green area at SPC is 2.58 million m<sup>2</sup> and the greening rate reaches 36%. The Company planted 9057 trees and shrubs in 2018 and additional green area amounted to 2280 m<sup>2</sup>. By 2020, the green coverage ratio will reach 42% and greening rate will be 40%.





## People Foremost, Benefit Staff

SPC is committed to optimizing communication mechanism, safeguarding the employees' rights and interests, caring about the employee's living, promoting occupational big health management and facilitating employees' overall development, so as to build harmonious labor relations.

- 01 Harmonious labor relations
- 02 Occupational health and safety
- 03 Boost employees' career development



# Harmonious Labor Relations

SPC complied with the Labor Law, the Labor Contract Law and the Trade Union Law and other applicable laws and regulations, respected and safeguarded the employees' rights and interests. SPC strictly followed provisions of the Labor Law by prohibiting hiring child labor and forced labor. SPC legally signed labor contracts with employees and was not allowed to terminate the labor relationship with employees under certain conditions specified by the laws and regulations. By the end of 2018, there were 9,597 staff and employees at the Company, of which staff and employees with university degree and above accounted for 25.76%. The employee quitting rate in 2018 was 0.85%.

## Optimized communication mechanism between management and employees

By virtue of the trade union and other platforms, SPC strengthens communication between management and staff to establish harmonious labor relations. The Company not only adheres to the proven practices, such as special committee of workers' congress, daily fair consultation meeting and plant affair information disclosure platform, but also proactively explores new means and modes in "Internet plus" and other fields.



▲ New version of WeChat public account for SPC Trade Union

By way of perfecting the performance assessment mechanism and detailed working rules, SPC carries out training for management staff and representatives and intensifies the capability development for trade union and the workers' congress, so as to improve their level of serving the employees and communicating with higher and lower levels.

## Prohibited any forms of discrimination

SPC equally treats all staff and employees by strictly prohibiting discriminations such as gender, region, religion, nationality etc. in terms of recruitment, remuneration, training, promotion etc. Besides, in order to facilitate equality of men and women, SPC concluded special collective contract for protection of female employees' rights and interests and carried out female employees' quality engineering construction.

**social insurance  
coverage rate  
100%**

**Trade union  
participation rate  
100%**

## Improved remuneration and holiday system

SPC established just and impartial compensation management system that is linked up with performance, paid five social insurances and one housing fund for employees and established incentive annuity and supplementary public reserve fund system; avoided employees' overtime as far as possible, paid overtime pay to overtime workers; implemented the employees' paid leave and recuperation system and perfected the terms of distribution of subsidy for recuperation.

## Cared about different employee groups

SPC condoles with the poverty-stricken employees, retirees, employees working on posts during hot seasons as well as holidays and festivals, young employees, new employees etc., so that every employee can feel the warmth of the family.



▲ Wu Haijun, chairman of the board, condoles with grassroots employee.

SPC implements "employees small room" project, which is equipped with refrigerators, microwave ovens, electric heaters and other living facilities; so that employees can take a good rest after hard work and improve their sense of satisfaction and happiness.

## Built multi-layer protective umbrellas to help the poverty-stricken employees

By paying supplementary medical insurance for employees, organizing and subsidizing employees to participate in Shanghai employee security and mutual assistance program and special basic security program for trade union members and establishing corporate employee help and mutual assistance fund, SPC built multi-layer protective umbrellas to help the poverty-stricken employees.

**Collective contract  
signature rate  
100%**

**Percentage of female in  
directors and supervisors  
10.53%**

# Occupational Health and Safety

SPC abides by the Work Safety Law and the Law on Prevention and Control of Occupational Disease of the People's Republic of China, is committed to creating safe working conditions to safeguard employees' health.

## Promoted occupational big health management

SPC set up the big health management concept, in which the Administrative Affairs Center, Union Work Division, Safety and Environment Division and other divisions cooperated with joint efforts to push forward and integrate multiple resources for whole-process management of the employees' health. From the sources to the follow-up links, every link is closely connected in aspects such as prevention and control of safety risks, health and health care, peaceful mental adjustment, medical insurance and security.



SPC cooperated with applicable Shanghai municipal authorities and public welfare organizations to carry out "care about employees and take the lead with health" themed "orange shaped needle" program, thus giving such welfare as intelligent physical examination and public benefit course of health to employees in one time.

## Care about employees' mental health with help of EAP

SPC promoted application of EAP (Employee Assistant Program) in an all-round way in 2017 to help employees with psychological adjustment. The Company carried out EAP training for middle and senior management staff, not only helping themselves make psychological adjustment, but also improving their ability to guide employees to manage the mood. SPC carried out diversified EAP activities to meet different demand.



The EAP activities carried out by SPC included "soaking with music", "date with spring", "Sandplay", office Yoga, experience with fragrance, healthcare of meridians and collaterals and other themes, which could help employees with different characters or different demands to adjust their mood.

### Whole-process employees' health management

**Reduce the probability of injury and disease from the sources**  
SPC intensified workplace environment and safety protection to reduce the probability of employees' suffering from disease and occupational injury.



#### Find the health problems in a timely manner

By way of organizing employees' physical examination, SPC found the health problem in a timely manner and established health archives for employees to track their health status.  
Employees' physical examination rate 99%, health file coverage rate 100%



#### Provide specialized recommendations of responses

SPC organized medical experts for gratuitous diagnosis and consultation and provision of recommendations for employees to respond to health problems.



#### Build green channels for medical treatment

SPC cooperated with famous hospitals to open up green channels for medical treatment.



#### Avoid employees' poverty due to disease

By virtue of the supplementary medical insurance and employees' assistance fund, SPC relieved the sick employees, so as to avoid poverty caused by disease.

### All-dimensional occupational safety protection

#### Perfected organizational guarantee

SPC set safety superintendent in the highest management. Numerous major leaders were assigned to be responsible for a certain critical potential safety hazard point. HSSE management committees were established at all levels and the safety responsibilities were assigned to individuals level by level.



#### Mobilized all staff to participate

By virtue of "safe production month", "work safety precautionary day" and "all-employee fire training", SPC improved all the employees' awareness of safety and capability of protection.

SPC promoted such activities as "I diagnose for safety", woodpecker in action, employees contracting system, all-staff safety score card, HSSE supervision team and cross checks by brother divisions, to mobilize all staff to participate in safety management.



#### All-process prevention and control

SPC intensified prevention and control of all-process safety risks through contractor safety precautions and performance assessment, quantitative assessment and identification of potential hazard points with safety risks, supervision at the construction and production sites around the clock etc.



#### Developed and drilled emergency plans

SPC developed and drilled the emergency response plans and organized multiple divisions for drilling of emergency response plans.

# Boost Employees' Career Development

Following the Vocational Education Law of the People's Republic of China, the Company implemented talents-based corporate development project, built favorable situations that everyone is eager to be a crackerjack, everyone endeavors to be a crackerjack, everyone is able to be a crackerjack and everyone can fully demonstrate his/her abilities of a crackerjack; especially formed the mechanism of caring about the youth growth and living.

## Built talents incubator

SPC attached importance to construction of training carrier and formed many "talents incubators". Apart from practical training base, the Company also proactively built technician studio, model worker innovation studio, youth center etc.

### Fu Xiaoqing team was awarded with "Shanghai Technician Master Studio".

To further give play to the leading role of high-skilled talents in innovative breakthrough, transfer of skills to apprentices etc., through preliminary inner selection, SPC submitted Fu Xiaoqing technician team of electrical and instrument center to participate in selection of "Shanghai Technician Master Studio". As a result of strict review and assessment by Shanghai Administration of Human Resources and Social Security, this team was successfully selected.

## Achieved modernization of training

SPC endeavored to achieve modernization of training. Firstly, by scientification of decision-making-prioritizes investigation and survey, rationally plans and defines training in accordance with demand. Secondly, by intelligent orientation of training means. SPC built self-service system, put multimedia training manuals online and established online learning zone, supported remote training and simulative practical training.

## Made innovations of training forms

SPC explored new training forms, including position rotation and swap, mutual visit of technician studio for exchange, excellent shift leaders going out for exchange with other enterprises.



▲ The Youth League Committee organized field "micro-course" for the youth.

## Diversified and just channels for career development

The Company provides various promotion sequences for management personnel, technicians and operators and establishes an equal, open and fair procedure for competitive recruitment, so that the promotion channels were diversified. SPC has formed mature engagement mechanism for senior experts, experts and lead technician.

training program  
**121** pieces

training person times  
**13514** persons

practical training base  
**5** pieces

## Formed the working mechanism of caring for the youth

SPC discovered the youth talents by way of creation and cultivation activities, strengthened their physique and built their accomplishment through youth recreational and sports activities as well as volunteer programs, and established youth demand survey and information service mechanism.

### Facilitated the youth to be integrated into the corporate big family through recreational and sports activities

The Company facilitated the youth to be integrated into the corporate big family through rich and colorful recreational and sports activities. Before the National Day of 2018, the Youth League Committee of the Refining Division organized the singing activity of "one person sings a favorite song", enabling every newly employed undergraduate to sing his/her favorite song, so that they could make friends with songs and adapt themselves to the new environment as soon as possible.

## Carried out youth creation and cultivation

The Company attached importance to youth creation and cultivation activities, including "one youth league committee with one quality", the youth task force, creation of youth model post and cultivation of youth position crackerjack, and carried out activities like positive energy training camp for young employees.

## Established youth center

SPC established youth center, which is not only the recreational and sports center, but also the training base. Additionally, it also helps the youth to solve practical problems of love and marriage.



▲ SPC next generation caring committee held reading party with the youth.

## Youth demand survey and information service

SPC carried out the activities like "going to the grassroots organizations, visiting the youth, seeking the elegant young employee" for survey of the youth demand and strengthened the youth information service with help of the WeChat public account "my youth at SPC".

Participated in creation of "one youth league committee with one quality" in 2018  
**17** Youth League Branches

Cultivated youth position crackerjack in 2018  
**29** persons

Officers of the Youth League Committee cumulatively visited the youth by  
**Over 1000** persons





## Fulfill Responsibilities and Serve the Society

SPC proactively supports development of surrounding communities, serves national key strategies, makes contribution to social and public welfare undertakings and incorporates the corporate development with regional, industry and state development into one body.

- 01 Facilitate Community Development
- 02 Serve National Strategies
- 03 Fulfill Responsibility of Anti-corruption
- 04 Make Contribution to Social and Public Welfare Undertakings

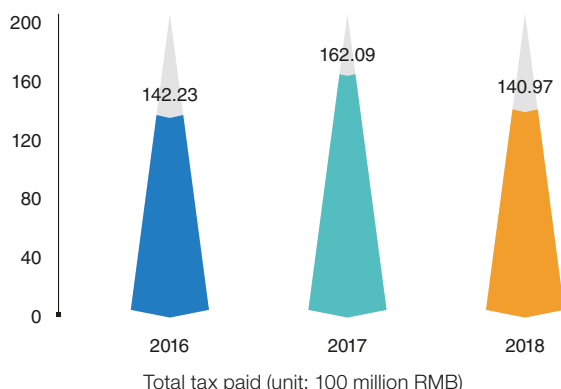


# Facilitate Community Development

The Company abided by the Law of Corporation Income Tax and Provisional Regulations on Value-added Tax of the People's Republic of China, paid taxes with honesty, established all-round cooperation mechanism with surrounding communities and jointly plan development with them. SPC also abided by the Environmental Protection Law of the People's Republic of China and Regulations on Disclosure of Environmental Information of Enterprises and Institutions, disclosed the enterprise environmental information to residents through Public Open Day program and facilitated understanding by way of communication.

## Paid taxes honestly according to law

The Company paid taxes honestly according to law and the amount of taxes paid has ranked top three in Shanghai industry enterprises for consecutive years.



## Undertook the mission to assure supply

SPC undertook the mission to assure supply of various fuel oils in case of special circumstances, such as on snow and rainy days, thus ensuring normal operation of regional and even national transport.

### Long-term supply of premium quality liquid nitrogen to aerospace industry

Liquid nitrogen has extreme significance in aerospace industry. SPC has always been considering guarantee of satisfying aerospace demand as a weighty responsibility and has been supplying liquid nitrogen to aerospace industry in a timely, adequate and premium quality manner. Priority is given to allocation of air separator and other equipment in shortage.

## Joint development of enterprise and local government and public communication mechanism

The Company has established Joint Development Committee with Shanghai Jinshan District, Pinghu of Zhejiang Province and governments of surrounding regions and established "Public Open Day" and other communication channels with common people.



▲ SPC is disseminating scientific knowledge about oil products to the visiting community residents.

## Education and cultural cooperation between enterprise and local government

SPC provided training courses and opportunities of internship to Shanghai and even national applicable universities, vocational schools, technical secondary schools and cooperative enterprises.



▲ SPC Exhibition Center was selected as national Party history and state history education base.

## Cooperation of infrastructure between enterprise and local government

SPC applicable divisions undertook the assignments of power supply, water supply and sewage treatment for Jinshan district. The Company took effective measures at critical stages like college entrance examination and senior high school entrance examination, thus ensuring no interruption of water and power supply.

### Participated in industrial reform of local infrastructure

SPC signed letter of intent with Shanghai electric power company and Shenergy Company for establishment of power distribution and consumption operation company and participated in pilot construction of Shanghai electric power market reform.

## Safety emergency response cooperation between enterprise and local government

SPC carried out joint emergency drill with surrounding communities and enterprises, provided professional equipment and passed on professional skills, thusly making contribution to intensification of emergency rescue forces in disaster prevention and anti-terrorism by local government.



▲ SPC jointly carried out emergency drill with SPC sub-district office of chemical defence

## Serve National Strategies

SPC proactively serves “One Belt and One Road” and other national strategies, serves transformation and upgrading of the whole industry and incorporates the corporate development, national development, individual progress and industry progress into one body.

### Serve the strategy of “One Belt and One Road”

SPC intensified peer exchange with countries along “One Belt and One Road” through cultivating petroleum talents for them, thus making contribution to China’s promotion of “One Belt and One Road” strategy.

#### Cultivating petrochemical talents for Brunei

To coordinate national strategy of “One Belt and One Road” and develop the strategic partnership with ASEAN countries, SPC assisted Zhejiang University to cultivate professionals of petroleum industry for Brunei. The Company received 14 overseas students from Brunei for internship at SPC in 2018.



▲ Receiving friends from Thailand to learn experience of environmental protection and water service

### Serve transformation and upgrading of the whole industry

SPC carried out exchange and cooperation with peer enterprises, especially those at surrounding areas, in terms of talent-based corporate development, work safety, environmental water service, supply chain management etc., jointly planning industry transformation and upgrading.

#### Joint discussion with Guangzhou Petrochemical Co., Ltd. about green development

SPC Environmental Water Service Division received counterparts of Guangzhou Petrochemical Co., Ltd. for visit and exchange. Faced with the situations of increasingly stringent state environmental policies and standards, they jointly discussed about prevention & treatment of water pollutions and atmospheric pollutions as well as standard upgrading of the same and jointly deliberated corporate transformation and upgrading as well as green development.

### Serve important events

SPC proactively supported national important events through intensification of security inside and outside the plant area and selection of excellent employees to participate in exhibitions, including the World Expo, G20 and International Import Expo.

#### Letter of acknowledgement from Shanghai Municipal Party Committee and Municipal Government

CPC Shanghai Municipal Party Committee and Municipal Government specially sent a letter of acknowledgement to appreciate SPC for our support to the first session of International Import Expo. SPC proactively assisted Shanghai Municipal Party Committee and Municipal Government with comprehensive coordination, exhibition service, security assurance as well as media and publicity work.

## Fulfill Responsibility of Anti-corruption

Abiding by applicable provisions of the Global Compact of the United Nations and the Corporation Law of the People’s Republic of China as well as Regulations of the Communist Party of China on Disciplinary Punishment, SPC completely fulfills the responsibility of anti-corruption.

### Fulfill membership obligations of global compact organization

Sinopec is one of earliest Chinese enterprises joining the Global Compact Organization of the United Nations. As a subsidiary of Sinopec, SPC has practically fulfilled the corporate membership obligations in terms of anti-corruption.

### Establish anti-corruption institutional system

SPC has established comprehensive anti-corruption responsibility system, anti-corruption regulation system and high-risk link prevention and control system.

#### Anti-corruption Responsibility System

Established SPC Surveillance Committee;  
Secretary of Committee for Discipline Inspection at all levels signed Statement of Responsibility for Clean and Honest Party Style Construction as well as Surveillance and Discipline Execution of Anti-corruption;  
Established 3-level supervisor network for clean & honest governance.

#### Anti-corruption Regulation System

SPC Scheme for Implementation of Supervision System and Mechanism; Regulations on Protection of Prosecutor as well as Petition of Just Hearing of a Case and Case Processing.

#### High-risk Links Prevention and Control System

Position clean administration risk prevention and control system;  
Inquiry about cooperative partner’s signature of clean and honest administration and bribery crime file;  
Online disclosure of purchase and sales business and online tour inspection.

### Anti-corruption education for nipping evil in the bud

SPC attaches importance to nipping evil in the bud by the adoption of cautionary education, daily education, promotion of clean governance with help of family members, timely admonishing and reminding, which not only reduces the occurrence rate of corruption, but also saves the individuals.

2018 admonishing  
talks

14 persons

reminding talks

8 persons

return visit and  
education of  
punished officers

4 persons

### Build sunshine supply chain

SPC signed the Liability Statement of Clean and Honest Administration with partners to develop transparent supply chain for prevention of illegal acts such as blackmail, fraud, money laundering etc.

#### Online disclosure and tour inspection of corporate business

SPC carries out online disclosure and tour inspection of such businesses as material procurement, product sales, transfer of property rights, overhaul and maintenance. In 2018, the number of online disclosure of SPC business was 83 thousand pieces and the number of online inspection of suspected problems amounted to 25.

# Devotion to public welfare undertakings

SPC not only organizes development of public welfare activities, such as volunteer service, blood and stem cell donations, donation of money and materials, but also establishes incentive system for spiritual civilization achievements, thus cultivating good citizens with lofty moral sentiments, full of love and enthusiasm in promoting public welfare undertakings.

## Incentive system for spiritual civilization achievements

Since establishment of the incentive system for spiritual civilization achievements in 1986 at SPC, the appraisal awards, such as “quarterly good deeds” and “annual top 10 spiritual civilization employee”, have been normalized and systematized, thus motivating employees to devote themselves to public welfare undertakings.



▲ Awards ceremony for stories about corporate culture

## Organize characterized public service activities of donation of stem cells

SPC has persisted in organizing employees to donate stem cells for over 20 years and more than 1700 employees have joined the Stem Cell Bank of China, accounting for 1/4 of Jinshan District, Shanghai.



▲ SPC's story about stem cell donation was extensively reported by mainstream media.

## Build volunteer service brand

With “Babysbreath” volunteer service brand developed by SPC with great efforts over the past 20 years, SPC provides services like supporting education, assistance of the senior citizens, impartation of knowledge about environmental protection and first-aid at surrounding communities.

SPC provided over 50 sessions of Babysbreath volunteer services in 2018 and the benefited person reached about 6,000 person/times.

### “Carry you to fly and accompany you to grow up” program in schools for transmission of love

SPC Youth League Committee organized young volunteers of multiple divisions to visit primary schools at surrounding communities to carry out “Babysbreath” volunteer activities of “Carry you to fly and accompany you to grow up”, facilitating children to grow up through some interesting teaching activities.



▲ Babysbreath volunteers are consoling and serving senior citizens

## Convey backbones to public welfare undertakings at surrounding areas

SPC employees or volunteer service teams have become the backbone of public welfare undertakings at surrounding areas. For example, Mao Jun, the stem cell donor established the volunteer team of “Xin Youth Home” of Jinshan District and acted as the team leader.

The Company explored interconnection of resources for the public welfare undertakings with surrounding communities via regional co-construction of the Youth League Committee.

### Regional co-construction of Youth League Committee facilitated cooperation for public welfare activities

SPC Youth League Committee proactively carries out regional co-construction with the Youth League Committees of surrounding enterprises and communities, which not only expands the network of friendship for the youth, but also facilitates various organizations to share resources and cooperate with each other for public welfare activities.



▲ SPC employee, Mao Jun (sixth from the right side of the first row) was commended by the Red Cross Society of China in 2018.



## Outlook of 2019

"The alternation of sun and moon will not be postponed and four seasons chase after one another". China has experienced legendary upheaval over the past 40 years, just like silkworms break the cocoon and turn into butterflies. Sinopec Shanghai Petrochemical Company Limited has grown up due to reform and expanded with reform. "China Road" is getting broader and broader and "the Steps of Petrochemical Industry" are still resonating powerfully. In 2019, the domestic and overseas situations are undergoing deep and complicated changes. The corporate development is also at a period of important strategic opportunities. The future is very promising, but the challenge is also very severe. China is also at an interweaving period, when petrochemical and chemical industries are faced with transformation-upgrading, the environment stress and element cost constraints are increasingly getting more and more outstanding in petrochemical industry development. At the new starting point of reform and opening up, considering deepening reform and opening up as the momentum, innovation-driven development as the sources, building a "domestically leading and globally first-class" energy and chemical as well as new material company as our development target, we will follow the trend to seize such strategic opportunities as eastward movement of global petrochemical product market, "One Belt and One Road" and construction of Yangtze River Economic Zone and proactively perform the corporate social responsibilities, thus contributing the petrochemical strength to sustained and healthy development of economic society.

We will deepen structural reforms of supply side, adhere to de-capacity, de-inventory, de-leveraging, cost reduction and shortage improvement, optimize allocation of stock resources, increase supply of premium quality increments and achieve dynamic balance between supply and demand. We will proactively boost the enterprise to adjust structure, promote transformation, improve benefit and achieve intensive, clean, low carbon, safe and sustainable development, so that both refining and chemical industries can take off together.

We will continue carrying out and implementing new development concept, energetically develop products with more market competitiveness, richer innovation and higher added-value and push forward upgrading of the enterprise product value chain. We will accelerate construction of intelligent plant that is highly digitalized, integrated, modelling, visualized and roboticized, and significantly improve the abilities of overall perception, optimization and synergy, forecasting and early warning as well as scientific decision-making, thus realizing efficiency improvement and capability growth.

We will continue perfecting and improving HSE management system, strictly performing overall inspection of potential safety hazards and implementation of responsibility of environment improvement, strengthen disclosure of environment information and environment monitoring and realize all-weather and dynamic supervision of environment with help of "environmental maps"; we will highlight the concept of "shutdown from the sources and cleaning from the process", persist in adopting the most advanced environment indicators, the most stringent quality indicators and the most efficient energy consumption indicators, foster new advantages of green and low carbon development.

We will continue perfecting the modern enterprise system and the performance appraisal system for social responsibility, continue improving the management level of social governance and green supply chain and jointly creating value with our customers; Closely centering on strengthening the political nature, advancement and mass feature, we will perfect democratic management system, deeply promote open plant affairs and day-to-day business and practically safeguard the employees' interests; we will keep inheriting people foremost development concept, caring for community development, fulfilling the corporate citizenship responsibilities, enabling employees to benefit more from the corporate development achievements in a fairer manner and endeavoring to improve the corporate employee and community residents' sense of benefit, sense of happiness and sense of safety.

The boatman has to endeavor to row the boat when it is in the midstream; the climber has to bravely climb up when he is halfway up the hill. 2019 is the 70th anniversary of New China and is the new starting point of reform and opening up. We will motivate our daring spirit, inspire ourselves, maintain the perseverance, constantly improve the corporate integrated strength and competitiveness. We will take our initiatives to lead the petroleum and chemical industry development at the north bank of Hangzhou Bay, do our utmost to foster high-end petrochemical industrial base of China and build SPC into a "domestically leading and globally first-class" energy and chemical as well as new material company



# Written Comments on Assessment of Corporate Social Responsibility Report

No. K00361

<b>Title of report</b>	2018 Annual Corporate Social Responsibility Report
<b>Company name</b>	Sinopec Shanghai Petrochemical Company Limited
<b>Business profile</b>	<p>Located in Jinshan District, Shanghai, as the holding subsidiary of China Petroleum &amp; Chemical Corporation, Sinopec Shanghai Petrochemical Company Limited (hereinafter referred to as "the Company") is one of the largest integrated enterprises of refining and chemical industry in China and also an important production base of oil products, intermediate petrochemical products, synthetic resin and synthetic fiber in China. Its main products include such four varieties as petroleum, chemicals, synthetic resin and synthetic fiber polymers, synthetic fiber.</p> <p>The Company achieved total industrial output value of 81.736 billion RMB and operation revenue of 107.765 billion RMB and totally paid tax revenue of 14.097 billion RMB and ranked 19th among the top 100 Shanghai-based enterprises in 2018. The Company vigorously built "innovative petrochemical industry". Brand new products and advanced technologies have kept on achieving new breakthroughs. The Company's 48K large tow carbon fiber technology has filled the gaps in domestic market. The company has achieved breakthroughs in zero export of carbon fiber products and was rated as the demonstration enterprise of 2018 intelligent manufacturing pilot projects by the Ministry of Industry and Information Technology of the People's Republic of China.</p> <p>The number of the Company's informal employees has been decreased year by year. The signature rate of employees' labor contracts and the coverage rate of social insurances have maintained 100% for consecutive years. The incident rate was zero, the total investment for environmental protection was 509.57 million RMB and the total consumption of industry energy resources has been decreased year by year. The Company was selected as "Constituent Stock of 2018 China SGCX-ESG50 Index (SynTaoGF CaiXin ESG 50 Index)" and granted with the honorary titles of "China Top 100 Enterprises", "Innovation China-Top 100 Listed Companies", "Shanghai Top 100 Enterprises of Two Excellences" and "Green Development Prizes".</p> <p>Contact information: (please visit the website for further information)  Add.: 48 Jinyi Road, Jinshan District, Shanghai, P.R. China  Zip code: 200540  Tel.: +86 21 57941941 Fax: +86 21 57940050  Email box: spc@spc.com.cn Website: <a href="http://www.spc.com.cn">http://www.spc.com.cn</a></p>
<b>Report Issue</b>	Eleventh release
<b>Assessment basis</b>	Shanghai municipal group standard Guidelines for Corporate Social Responsibility T31/01001-G001-2014)
<b>Assessment method</b>	<p>Written assessment was conducted for 2018 Annual Corporate Social Responsibility Report (called "the Report" for short) of Sinopec Shanghai Petrochemical Co., Ltd. in accordance with the requirements of T31/01001-G001-2014 Guidelines for Corporate Social Responsibility.</p> <p>The assessment process included confirmation of the source of information disclosed by the Report and its reliability with help of the enterprise official website and the third party's data concerned.</p>
<b>Structural integrity</b>	<p>2018 annual report on corporate social responsibility of Sinopec Shanghai Petrochemical Co., Ltd. (hereinafter referred to as "the Report") elaborated various activities and the performance completed and achieved by the Company in 2018. With standardized structure and complete contents, the Company's report covered the basic contents of the Company's performance of its social, economic and environment responsibilities, systematically elaborated the corporate social responsibility concept, strategy and management, which was embodied by innovations, integrity management, refined operations and people foremost. It involved the main key performance indicator items required by Guidelines for Corporate Social Responsibilities (T31/01001-G001-2014).</p>

The Report stated the corporate mission, strategic positioning and core value and disclosed SPC's practice and performance in fulfillment of social responsibility in 2018.

**Scientific development:** The Company firmly set up the concept of "challenging to the advanced level and benchmarking the most stringent standard", adhered to the innovation-driven development strategy, upheld business promotion through quality improvement, stuck to intelligent manufacturing and was committed to satisfying high quality economic development and new demand of clean energy and advanced chemical materials by people's better living.

The company's total value of assets reached 44.54 billion RMB, operation revenue 107.765 billion RMB and total amount of tax payment 14.097 billion RMB in 2018. The Company focused on green and low carbon development in accordance with state requirements on environmental pollution prevention and treatment. The company researched and developed a batch of technologies, including critical production technology for national VI standard gasoline and diesel, environmental friendly and green polyolefin technology, application of low NO<sub>x</sub> environmental and energy saving technology in cracking heaters, anaerobic petrochemical mixed sewage treatment technology etc. The Company's national VI standard gasoline and diesel were launched into the market on August 20, 2018 ahead of the schedule. The Company focused on high-end development demand in industry and the number of annual applications for inventive patents reached 63 by centering on development of high performance advanced materials, high value-added synthetic materials and advanced technology of fine chemical engineering. The Company had successfully developed a series of new technologies, including 48K large tow carbon fibers, high-end automobile grade PVB resin, high density polyethylene black piping materials, colored acrylic fibers, high-temperature cooked cast polypropylene films, special materials for production of polypropylene with gas permeation saturation method, thus filling the gaps of relevant domestic products and making contributions to improvement of the self-sufficiency rate of new chemical materials in China. The Company achieved "green renovation" of products by way of optimizing the production technologies: 2# polyester plant successfully achieved product renovations from high modulus and low shrinkage PET chips to cationic PET chips without the need of shutdown, not only shortening the renovation time, but also reducing discharge of pollutants during shutdown. The Company intensified the strength of building smart plant and rolled out geographic information platform, which deeply integrates the information of material in kind with geographic information, realizes smart and interactive close relevance between materials in kind and specialized system data and effectively implements data sharing among all specialized systems in business management.

**Fair business operations:** The Company adhered to the operation concept of "operating business in good faith and cooperating for win-win" and realized win-win cooperation in terms of supply chain by considering green development in whole-process, whole-chain and whole-link manner as the orientation. The Company carried out MPRC (market-production-research-customer) group activities to cooperate with back-end customers for development of products and markets, assisted customers with product performance test and product development, thus facilitating "win-win" and improving the competitiveness of new products. The Company improved the customers' experience with SPC's intelligent sales service through SPC's Self-service Cargo Pickup System Development project. The Company fought it out and won the lawsuit of "anti-dumping case of acrylic fibers" filed by India against China. As a result, there is no need for the acrylic fiber producers of China to pay anti-dumping duty. The Company organized honest employment training for multiple times throughout the year and signed 182 annual Statements of Honest Employment Responsibility with customers, strictly followed "zero" report system and the coverage rate of anti-commercial bribery training reached 100%.

**Environmental protection and saving:** The Company has always attached great importance to environmental protection by promoting HSE management system, persisting in combination of cut-down from the pollutant sources, process control and terminal treatment. The company has cumulatively implemented 107 environmental governance projects over the past five years and invested 2.5 billion RMB for environmental governance to spare no efforts to build a green petrochemical plant and total investment for environmental protection amounted to 509.57 million RMB throughout the year. The Company continuously strengthened control from the sources, strictly implemented "three simultaneities" for the environmental protection in construction projects to eliminate the potential environmental hazards in the later period of project construction and after the project plant was put into operation. The Company continuously carried out "clean production month" program and has consecutively passed Shanghai municipal clean production audit and acceptance for several times. The Company put into operation of the domestic first set of environmental friendly closed decoking project to intensify control from the pollution sources, which was simultaneously designed and constructed from production, storage, transport to waste gas treatment. The Company strengthened supervision of environmental monitoring facilities and achieved 100% of the online environmental data transfer rate and established environmental traceability system. In 2018, 66 potential environmental hazards were investigated, in which 63 items were completed with rectifications in the same year and the remaining 3 items were completed beyond the year of 2018.

The Company continued boosting integrated treatment of VOCs in 2018, intensified boundary traceability and investigations, carried out the campaign of "seeking the odor by all staff" and incorporated the results of LDAR into safety and environmental performance assessment. As a result, the discharge of VOCs was decreased by 6.22% on a year-on-year basis; the boundary concentration of VOCs was decreased by 6.3% on a year-on-year basis. Complaint about the Company's boundary odor was significantly reduced.

In 2018, the Thermal Power Division of the Company cleaned the ash yard, so the volume of outgoing delivery and disposal of slag was increased and the generation of non-hazardous wastes was 815,000 tons. Appropriate disposal rate of non-hazardous wastes reached 100%. The generation of hazardous wastes was 9,600 tons and appropriate disposal rate of hazardous wastes reached 100%.

In 2018, the Company started to adopt field measurement method for accounting of the pollutant discharge. The discharge of four categories of pollutants, including chemical oxygen demand, ammonia nitrogen, sulfur dioxide, and NO<sub>x</sub>, was decreased by 24.58%, 39.20%, 64.01% and 39.96% on a year-on-year basis, respectively. The compliance rate for treatment effect of waste gas, waste water, waste noise and hazardous wastes reached four 100%.

**Work Safety:** In 2018, the Company paid more attention to intensification of the sense of responsibility, the sense of mission and the sense of urgency for safety and environment management. In 2018, the Company didn't have any major or extra serious incidents of work safety, occupational poisoning and environmental pollution, achieved the indicator of "seven zeros" in HSSE management and HSSE generally presented a stable tendency. The leadership attached importance to work safety and the responsibilities were defined. The Company broke down and implemented the entity responsibility for safety management in an all-around way and carried out the work safety management requirements of "identical responsibility for Party and government offices, dual duties for one position". The Party and government organizations at all levels and principals signed the HSSE Responsibility Statement and the letter of safety commitment. The system of "the person in charge shall take the responsibility" was adopted. The Company carried out safety risk identification and investigation and implemented applicable measures, intensified management and supervision in terms of technology, regulations, various levels and contractors and took preventative measures against potential hazard.

**Customer and consumer's rights and interests:** taking advantage of the traditional media and new media, the Public Open Day, CSR report, co-construction of community, sunshine industry chain engineering etc., the Company released the progress of CSR related system building and implementation to the stakeholders, listened to appeals from all parties and accepted reasonable recommendations, thus establishing the relationship of win-win cooperation of mutual support and mutual benefit.

The Company released regular reports, effectively and timely disclosed information to shareholders; the customer satisfaction reached 97.98% in 2018; and organized the product promotion meetings. Considering "challenging to the advanced level and benchmarking the most stringent standard" as the concept, the Company strengthened process technology management, production optimization management and was committed to providing sustainable energy, high performance, energy saving and environmental friendly advanced chemical materials efficiently and stably. The Company's national VI standard gasoline and diesel were launched into the market; the product compliance rate reached 100% throughout the year. There were no quality incidents and no occurrence of recalling of sold products due to quality problems.

**Win-win cooperation:** built transparent supply chain: the Company built transparent supply chain by signing "Statement of Responsibility for Co-construction of Clean and Honest Governance" with cooperative partners for prevention of blackmail, fraud, money laundering and other illegal acts. In 2018, the Company concluded commercial factoring business service contract with EPEC platform to assist SPC's suppliers to solve the financing problem, thus realizing ecological collaborative win-win of supply chain. The Company intensified contractors' safety management interview and performance assessment.

The Olefin Division of SPC carried out "Safety Orientation Interview" in batches for the principals of major contractors who participated in turnaround at new area, with the interview items mainly including such 16 contents as the principals' duties and main assignment, clarification of the construction scheme, understanding of the turnaround risks etc.. Those who failed to pass the interview should attend make-up examination till they passed. By way of one-on-one interview, it can test the preparation status of the principal of the construction contractor for the turnaround, disseminate the safety situations and improve their attention to the construction safety.

In 2018, the Company continued to reduce reseller purchase, promoted procurement through public inquiry and price comparisons, directly introduced the manufacturer purchase. As a result, the manufacturer direct supply rate rose to 99.6%; The company established the operation mechanism for reward and punishment of suppliers. The suppliers' ISO14000 environmental management system certification reached 54.1% and purchase rate via invitation to bids reached 90.47%.

**Harmonious labor relationship:** by the end of 2018, there were 9,597 staff and employees at the Company, of which staff and employees with university degree and above accounted for 25.76%. The employee quitting rate in 2018 was 0.85%. The percentage of female management staff was 17.2%, the morbidity of occupational disease 0.01% and the coverage rate of physical examination was 98.92%. The input into relief of poverty-stricken employees amounted to 1.5 million RMB. The rate of employees' occupational injury and death were both 0. The Company prohibited the use of child labor and the forced laborer strictly in accordance with requirements of the Labor Law, signed labor contract with employees according to law and was not permitted to terminate the labor contract with employees under certain conditions of the law. The Company optimized communication mechanism between management and employees: intensified the capability development for trade union and the workers' congress, so as to improve their level of serving the employees and communicating with higher and lower levels. The Company established just and impartial compensation management system that is linked up with performance, paid five social insurances and one housing fund for employees and established incentive annuity and supplementary public reserve fund system. The Company cared about different employee groups: implemented "employees small room" project, which was equipped with refrigerators, microwave ovens, electric heaters and other living facilities; so that employees can take a good rest after hard work and improve their sense of satisfaction and happiness. The Company established corporate employee help and mutual assistance fund and built multi-layer protective umbrellas to help the poverty-stricken employees. The Company promoted occupational bit health management: set up the big health management concept, in which the Administrative Affairs Center, Union Work Division, Safety and Environment Division and other divisions cooperated with joint efforts to push forward and integrate multiple resources for whole-process management of the employees' health. From the sources to the follow-up links, every link is closely connected in such aspects as prevention and control of safety risks, health and health care, peaceful mental adjustment, medical insurance and security. The Company formed diversified and just channels for career development. The Company provided various promotion sequences for management personnel, technicians and operators and establishes an equal, open and fair procedure for competitive recruitment, so that the promotion channels were diversified; the Company had formed mature engagement mechanism for senior experts, experts and lead technician. The Company carried out the activities like "going to the grassroots organizations, visiting the youth, seeking the elegant young employee" for survey of the youth demand and strengthened the youth information service with help of the WeChat public account "my youth at SPC". The Company carried out 121 training programs throughout 2018, provided training to 13,514 person/times and established 5 training bases.

Assessment matters	
Substantial contents	<p><b>Community participation and development:</b> The Company proactively supported development of surrounding communities, served national key strategies, made contribution to social and public welfare undertakings and incorporated the corporate development with regional, industry and state development into one body. The Company established all-round cooperation mechanism with surrounding communities and jointly plan development with them. SPC also abided by the Environmental Protection Law of the People's Republic of China and Regulations on Disclosure of Environmental Information of Enterprises and Institutions, disclosed the enterprise environmental information to residents through Public Open Day program and facilitated understanding by way of communication. The Company proactively served important events: proactively supported national important events through intensification of security inside and outside the plant area and selection of excellent employees to participate in exhibitions, including the World Expo, G20 and International Import Expo. The Company proactively served national strategy of "One Belt and One Road": assisted Zhejiang University to cultivate professionals of petroleum industry for Brunei. The Company received 14 overseas students from Brunei for internship at SPC in 2018. The Company was keen on public welfare undertakings: it has persisted in organizing employees to donate stem cells for over 20 years and more than 1700 employees have joined the Stem Cell Bank of China, accounting for 1/4 of Jinshan District, Shanghai. The Company put forth effort into building of volunteer service brand: provided over 50 sessions of Babysbreath volunteer services in 2018 and the benefited person reached about 6,000 person/times. The Company's Youth League Committee organized young volunteers of multiple divisions to visit primary schools at surrounding communities to carry out "Babysbreath" volunteer activities of "Carry you to fly and accompany you to grow up", facilitating children to grow up through some interesting teaching activities.</p> <p><b>Recommendations of improvement:</b> pay attention to information in the same industry. Horizontal comparisons are favorable for identification of the corporate position in industry. Define the development target, so as to improve and correct the deficiencies, thus contributing to development of the refining and chemical enterprises of China.</p>
Performance comparability	<p>The Report disclosed the performance indicators of Sinopec Shanghai Petrochemical Company Limited in terms of fulfillment of corporate social responsibility, with part data collection longitudinally and consecutively running through 3-5 years, thus presenting better link relative ratio and continuity. However, restricted by industrial data/information, the Report doesn't have horizontal comparability.</p>
Credibility of content	<p>By way of the enterprise official website as well as consultation of relevant third party's assessment information and other means, we verified SPC's concept, culture and strategy of social responsibility and corporate governance disclosed by the Report as well as typical examples of practice and data, confirmed that Report contents reached certain credibility.</p>
Readability	<p>The Report had a clear structure and plain text. In forms of characters, data, graphs, pictures etc., the Report displayed the Company's management, practice and performance of social responsibility; it was reader friendly and had strong readability.</p>
Timeliness	<p>The Report focused on information disclosure of the Company's fulfillment of social responsibility in 2018 and the examples of practice and performance data presented certain timeliness.</p>
Stakeholders' participation	<p>The Report disclosed SPC's communication with relevant parties about main topics of social responsibility as well as expectations and requirements to external stakeholders and set forth protection of the stakeholders' legal rights and interests and win-win cooperation in economic benefit.</p>
Overall comments	<p>The critical information, data and examples of fulfillment of social responsibility disclosed by the Report are basically in conformity with T31/01001-G001-2014 Guidelines for Corporate Social Responsibility.</p>
Statement	<p>The assessment comments are only specific to the 2018 information and data provided by the Report and the Company.</p>

Auditor: Li Xiaohong  
Approved by: Yan Zhuoming  
Assessment organization: Shanghai Quality System Audit Center  
Audit date: March 15, 2019



# Index

Titles	Sub-titles	ISO26000	ESG	API	Cass-csr3.0	Pages
Address by Chairman of the Board				SOC-1	P3.1 P3.2	P1-2
SPC Responsibility performance Sheet				ECO-1	P5.2	P3-4
Company Profile					P4.1 P4.2 P4.3 P4.4	P5
Development Strategy		6.2				P6
Corporate Culture						P6
Corporate Governance						P7
Communication about topics of social responsibility						P8
Matrix for assessment of the importance of social responsibility topics						P8
Responsibility Management		6.2		SOC2	G1-G6	P9
2018 Honors of Responsibility					P5.3	P11
Revitalize petrochemical industry with innovative and pragmatic mindset	Supply premium products	6.7.4				P13-14
	Deepen quality for business promotion	6.7.4	B6.4		M2.1 M2.3	P15
	Make innovations in petrochemical technology	6.7.4 6.7.5			M2.11-M2.16 E3.3	P16
	Build smart plant					P17
Create value in good faith	Jointly create value with our customers	6.6 6.7	B6.2 B6.5		M2.4-M2.6 M2.8-M2.10 M3.10-M3.12 E2.25	P19-20
	Win-win cooperation in supply chain	6.5 6.6	B5	ECO-3 SOC-8	E3.1	P21
Develop business through win-win cooperation	Improve business performance			ECO-2	M1.4-M1.6	P23-24
	Safeguard investors' rights and interests			ECO-2 ECO-1 ECO-A3	M1.2 M1.3	P25

Titles	Sub-titles	ISO26000	ESG	API	Cass-csr3.0	Pages
<b>Refined operations, safety and green development</b>	Strengthen safety management	6.4.6		ENV-6 H&S-5 H&S-4 H&S-2 H&S-5	S3.1 S3.2 S3.3 S3.4 S3.5 S3.6 S3.7	P27-29
	Intensify environmental protection	6.5.3	A1.1 A1.3 A1.4 A1.5 A1.6 A3.1	ENV-1 ENV-2 ENV-A3 ENV-A4	E1.1-E1.5 E1.6-E1.7 E1.8 E2.7-E2.24	P30-32
	Develop recycling economy	6.5.4	A2.2 A2.4 A2.5	ENV-A7 ENV-A5	E2.27-E2.29	P33-35
	Boost low carbon development	6.5.5	A1.2 A2.1 A2.3	ENV-5 ENV-3 ENV-A8 ENV-A9	E2.1-E2.4 E4.1-E4.4 E5.1-E5.3	P36-37
<b>People foremost, benefit the staff</b>	Harmonious labor relations	6.3 6.4 6.8	B1.1 B1.2 B4	SOC-1 SOC-A2 SOC-4	S1.7 S1.8 S2.1-S2.7 S2.10-S2.14	P39
	Occupational health and safety	6.4	B3	SOC-1 SOC-5 SOC-4 SOC-1 SOC-A2	S2.18-S2.20	P40
	Boost employees' career development	6.3 6.4 6.8	B2.1 B2.3	SOC-4 SOC-1	S2.15	P41
<b>Fulfill responsibilities and serve the society</b>	Facilitate community development	6.3 6.4 6.8 6.5	B8 B8.1 B8.2	ECO-1 SOC-A4 SOC-A3 SOC-A5	S1.5 S4.6 S4.7	P43
	Serve national strategies				E1.9 S4.1 S4.2	P44
	Fulfill Responsibility of Anti-corruption	6.6	B7			P44
	Make Contribution to Social and Public Welfare Undertakings	6.8			S4.10 S4.11 S4.13-S4.15	P45
<b>Outlook of 2019</b>					A1	P46
<b>Written Comments on Assessment of Corporate Social Responsibility Report Index</b>					A2	P47
<b>Briefing of this report</b>					A3	P51
<b>Form of Readers' Feedback</b>					A4	P54

# Briefing of this report

## Report release cycle

Once every year

## Eleventh report of social responsibility

Present report is the eleventh report on enterprise social responsibility released by SPC, which includes the efforts and achievements made and scored by SPC in terms of economy, environment and society for sustainable development in 2018.

## Time frame of the report

This report was developed on the basis of the data ranging from January 2018 to December 2018. However, we also adopted the data of the past three years since 2016 for certain quantity of achievements, so as to reflect the variation tendency in time.

## Key topics

SPC practice of corporate social responsibility

## Reference standards of the report

References are made to the Guidelines on Enterprise Social Responsibility (SEO-CSR1.0) issued by Shanghai Federation of Economic Organization, ISO26000: Guidelines on Social Responsibility (2010) issued by International Standardization Organization, the Guidelines for Environment, Society and Management Report issued by the Stock Exchange of Hong Kong Limited and Guidelines for Release of Report on Sustainable Development of Petroleum and Natural Gas Industry issued by the International Association of Environmental Protection in Petroleum Industry.

## Reliability guarantee of the report

Present report does not contain intentionally fictitious fact, misleading statement or omission of major events and we guarantee its accuracy and authenticity.

## Data sources

All data of the report are sourced from SPC official documents and statistical reports and have been reviewed by competent authorities.

## Abbreviations of the report

SPC and the Company as mentioned in the report refer to Sinopec Shanghai Petrochemical Co., Ltd.

## Scope of the report

The scope is consistent with SPC business coverage area.

## Improvement of the report

We aim to facilitate dialogue through the report, interpret the value and impact brought about by SPC's fulfillment of social responsibilities and jointly discuss with stakeholders about the opportunities and challenges faced by us in the course of development and then seek solutions. We appreciate your comments and recommendations on improvement of the report.

## Ways to access to the report and extended reading

You can also read the electronic version of this report by visiting the website (<http://www.spc.com.cn>).



# Form of Readers' Feedback

Dear readers:

We appreciate your reading of 2018 SPC Report on Social Responsibility. We attach great importance to and expect your feedback or comments about SPC sustainable development and this report. Your comments and recommendations are important references for us to improve the performance of social responsibility. You can send your feedback to us by mail, email or fax. We warmly welcome and sincerely appreciate your precious comments.

Name:

Company:

Contact number:

Email:

## Your assessment of our report:

Your assessment of this report	Excellent	Good	Average	Poor
How do you like the rationality of the structure of this report?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Can you understand SPC concept of social responsibility and characteristics of practice?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is this report reader friendly and readable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How do you like the content arrangement and format design of this report?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
What is your overall assessment of this report?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Your recommendations on SPC Report on Corporate Social Responsibility:

## Your recommendations on SPC sustainable development:

### You can contact us at:

Address: 48 Jinyi Road, Jinshan District, Shanghai 200540, China

Telephone: 86-21-57941941

Fax: 86-21-57940050

Email box: spc@spc.com.cn

