



# CORPORATE SOCIAL RESPONSIBILITY REPORT

# 2019



**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

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*To Provide Energy for Better Living*

## *Corporate Vision*

*To build a World-class Energy and Chemical Company*

## *Corporate Values*

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






## *Occupation Code*

*Being dedicated to be a cultured person, observing regulations  
to be an honest person, keeping faith to be a civilized person*



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# ADDRESS BY CHAIRMAN OF BOARD

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**We Will Create A Future Of Sustainable Development With The Undertaking Spirit Of “I Must Try My Best To Score Achievements, But The Achievements Are Not Necessarily Attributable To Me”.**

In 2019, under the new turbulent situations such as global economic downturn, the emergence of a new round of scientific and technological revolution, and the escalation of international trade frictions, the petrochemical industry was faced with challenges of increasing industry descending pressure, complex adjustments of global supply chains, intensified competition in commanding heights of technological innovation, and raising of new requirements for sustainable development. As one of the largest integrated refining and chemical enterprises in China, we set the development goal as building “a domestically leading and world-class” energy, chemical and new material company, adhered to the mission of “providing energy for better living”, actively created a green chemical enterprise, accelerated the layout of new energy and materials, to foster new growth drivers for sustainable development. We achieved operation revenue of RMB 100.346 billion, paid a total sum of RMB 14.717 billion tax revenue, ranked 20th in the 2019 Shanghai Top 100 Enterprises List, and 51st in the Chemical Week USD Global Three Billion Dollars Chemical Enterprise Club Ranking.

We are committed to the construction of green chemical enterprises. We strived to build a clean, low-carbon, and recycling green production system to minimize the impact of corporate operations on the ecological environment. We provided consumers and customers with clean, recyclable, and degradable green chemical products, and made great efforts to meet climate change, reduced plastic waste and developed recycling economy. We actively cooperated with regional partners to expand the application of key industry technologies and the construction of industrial chain, and led the formation of green industry ecosystem for advanced materials in the Yangtze River Delta. Through participation in the International Import Expo, China International Industry Fair, etc., we disseminate

the value concept of “better living is closely connected with chemical products”, and developed a good and healthy green chemical culture.

We are committed to strategic transformation for business. We accelerated the layout of new energy and advanced materials by focusing on industry trend of petrochemical industry shifting from providing bulk homogenized products to meeting high-end and individual demand. We established the Carbon Fiber Products Division and expanded the new applications of carbon fiber in marine engineering, civil aviation and other fields. Our carbon fiber products are able to replace those imported. We defined the direction of strategic transformation for polyester, acrylic fiber, polyolefin, fine chemical and other major business areas to provide customers with differentiated value and solutions.

We are committed to the research and development of technologies for advanced materials. We adhered to the belief that “advanced materials change the world” and, by studying next-generation new material technologies, developed products and solutions that were able to help customers reduce emissions and increase efficiency. In 2019, we invested RMB 93 million in research and development to reform the management system of research and development and stimulate the vitality of independent research and development. We adhered to the concept of open and cooperative research and development, and actively cooperated with universities, regional industry partners, non-governmental organizations and private enterprises to carry out research and development. We applied for 65 patents and obtained 26 patents, and expanded the new area for substitution of high-end chemical new materials.

We are committed to the improvement of the intrinsic environmental protection. We consider safety, health and environment as our prioritized topics of responsibility. In 2019, SPC implemented a new

Wu Haijun  
Chairman



HSSE management system and improved the HSSE management standard. We combined the company's pollution treatment with the objectives of regional environmental protection, invested RMB 659 million in environmental protection, adhered to clean management and control throughout the production process, and adhered to big data to support decision-making in environmental protection, so as to continuously improve environmental governance capabilities and standards. We have fully accomplished the annual emission reduction targets, and the average value of border VOCs concentrations has entered a low-value era.

We are committed to co-development with our surrounding communities. Abiding by the belief of responsible chemical enterprises, we took practical actions to reduce the impact on surrounding communities, explored the feasible ways of "co-existence and co-prosperity of green chemicals and outstanding global city", and co-developed with surrounding communities.

We are committed to optimizing the management system. We considered the management system as a guarantee to improve SPC's operating performance. Based upon SPC's strategic deployment of "two three years and two ten years", we established and improved the business promotion structure matching SPC's efficiency improvement, transformation and upgrading, the salary distribution mechanism matching the labor market, the talent evaluation system, job qualification system and tenure evaluation system matching the talent development, and strived to transform the system advantage into governance effectiveness.

We hope to raise standards and become industry benchmarks in each area of action. In 2019, we won the second prize of the National Science and Technology Progress Award; we were awarded the titles of "China Moral Enterprise" and "Sinopec

Green Enterprise"; we passed Shanghai Clean Production Review Assessment and Acceptance, and consecutively passed review of "China Environmental Friendly Enterprise" for three times. This is not only the fruitful achievement of our pursuit of corporate value, but also the proof of fulfilling the social responsibility of industry-leading enterprise. Here I would like to express my sincere gratitude to all the employees for their great efforts and all the stakeholders who care about and support SPC development. I hope everyone can continue to have confidence in the future development of the company.

2020 is the critical year for our country to accomplish the goal of "the first one-hundred year", and also the closing year for SPC to achieve the first three-year goal. We will not shake our will due to the extraneous interference and will not change our moral integrity by exterior temptation. Under the guidance of Xi Jinping's thought on socialism with Chinese characteristics for a new era, aiming at the development goal of building "domestically leading and world-class" energy, chemical and new material company, we will adhere to "challenging the advanced level and benchmarking the most stringent standard" and create a future of sustainable development with the undertaking spirit of "I must try my best to score achievements, but the achievements are not necessarily attributable to me".

March 20, 2020

## SPC RESPONSIBILITY PERFORMANCE SHEET



Indicators	Unit	2019	2018	2017
Total assets	RMB 100 million	456.36	445.40	396.10
Operating revenue	RMB 100 million	1003.46	1077.65	920.14
Total profit	RMB 100 million	26.54	67.49	78.51
Earnings per share	RMB	0.205	0.488	0.568
Quantity of applications for inventive patents	piece	65	71	56
Customer satisfaction	%	97.66	97.93	96.49
Spot check compliant rate of products	%	100	100	100
Purchasing rate by invitation to bids	%	92.34	90.47	92.14
Direct supply from manufacturers	%	99.70	99.60	99.17
Ratio of suppliers' obtaining ISO14000 environmental management system certification	%	61.83	54.10	58.53



Indicators	Unit	2019	2018	2017
Total tax paid	RMB 100 million	147.17	142.61	169.44
Coverage rate of anti-commercial bribery training	%	100	100	100
Proportion of informal employees	%	6.78	6.62	10.45
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	%	16.5	17.20	17.80
Incidence of occupational diseases	%	0	0.01	0
Number of occupational safety and health trainees	Person	22861	13750	9577
Coverage rate of physical examination	%	98.90	98.92	98.65
Input into relief of poverty-stricken employees	RMB 10K	150	150	150
Proportion of female employees	%	22.00	24.21	25.20
Proportion of local residents	%	87.67	87.82	68.63



## SAFETY

Indicators	Unit	2019	2018	2017
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 accidents and explosions	Case	0	0	0
Number of major incidents of environmental pollutions	Case	0	0	0
Number of major incidents of occupational accidents	Case	0	0	0
Major incidents of chemical spills	Case	0	0	0
Major traffic accidents	Case	0	0	0
Major liability incidents	Case	0	0	0
Mortality rate per million man-hours	%	0	0	0
Input into work safety	RMB 10K	23478.01	13765.59	19369.70



## ENVIRONMENT

Indicators	Unit	2019	2018	2017
Total environmental investment	RMB 10K	65883	50957	73411
Fresh water consumption	10 K Ton	5757.76	5939.96	6027.05
COD discharge	Ton	1161.04	1276.13	1691.94
Discharge of ammonia nitrogen	Ton	68.30	28.04	46.12
Discharge of waste gas	10 K m <sup>3</sup>	469.13	454.42	479.54
SO <sub>2</sub> discharge	Ton	220.63	237.76	660.54
Discharge of nitrogen oxides	Ton	1266.74	1450.94	2416.71
Total consumption of industrial energy	10 K Ton	715.0	684.9	690.5
Electricity consumption (excluding external electricity supply)	10 K kilowatt	332171	318852	319555
CO <sub>2</sub> discharge	Ton	1095.89	1046.14	1039.84
Discharge of hazardous wastes	10 K Ton	1.49	1.40	1.01
Discharge of non-hazardous wastes	10 K ton	72.37	81.54	67.23
Recycling volume of composite sludge	10 K ton	1.91	1.71	1.31
Frequency of major leakage of chemicals	Times	0	0	0

Note: 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.

## BRIEF INTRODUCTION TO SPC

Located in Jinshan District, Shanghai, as the investment holding subsidiary of China Petroleum & Chemical Corporation, Sinopec Shanghai Petrochemical Company Limited (hereinafter referred to as "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. At present, closely focusing on five major development strategies of "value guidance, innovation driving, resource integration, opening and cooperation, green and low carbon", SPC is practically establishing the concept of "challenging the advanced level and benchmarking the most stringent standard", accelerating the pace of transformation, structural adjustment, quality, efficiency improvement and upgrading, and taking great efforts to build a "domestically leading and world-class" energy, chemical and new materials company.



- The first set of large-scale chemical fiber production plant of independent design, manufacturing and installation in China



- The first set of C5 separation plant with complete intellectual property rights in China



- The first Chinese listed simultaneously in Shanghai, Hong Kong and New York



- Delivery of the first batch of low-sulfur bunker heavy fuel oil in China



- Successful operation of domestic carbon fiber continuous sucker rod for the first time in China



- The only isopentene and pentane complex in China





## CORPORATE CULTURE

The concept of core value is the core and soul of the corporate culture, and is the fundamental guideline to guide the corporate behavior and employee behavior. SPC's core value concept system includes the corporate mission, corporate vision, corporate values and corporate style. It considers SPC's core value concept as the fundamental adherence and embodies its characteristic connotations in practice.

### Corporate Mission

To provide energy for better living

### Corporate Vision

To build a world-class energy and chemical company

### Corporate Values



### Corporate Style

Strictness, Precision, Pragmatism

### Occupation Code

Being dedicated to be a cultured person, observing regulations to be an honest person, keeping faith to be a civilized person

## DEVELOPMENT STRATEGY

### Development Concept

Innovation, harmony, green, open and sharing

### Development Strategy

Value guidance, innovation driving, resource planning, opening and cooperation, green and low carbon

### Development Ideas

One leader, one core and one base

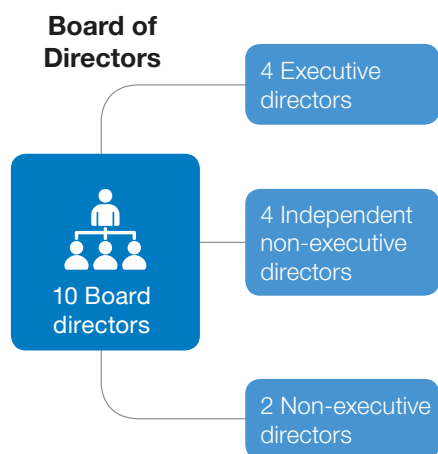
Guided by President Xi Jinping's thought on socialism with Chinese characteristics for the new era, and fully implementing the spirit of the 19th CPC National Congress which targets at building a "domestically leading and world-class" company, SPC is committed to becoming an excellent energy and chemical 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 “Company Law of the People’s Republic of China”, the “Securities Law of the People’s Republic of China” and other state laws and regulations and following the supervision requirements of China Securities Regulatory Commission and the Exchange of the listing location, SPC established the corporate governance systems in compliance with international and state laws and regulations that have defined split of duties and rights for various levels and clear decision-making process. SPC has complied with all the applicable rules and articles as stipulated in the Environmental, Social and Governance Reporting Guide in 2019.

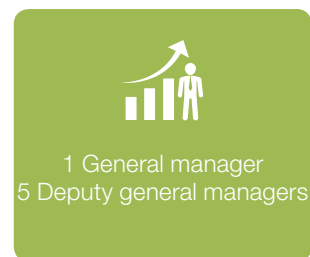
### GOVERNANCE STRUCTURE



### Board of Supervisors



### Management Level



### GOVERNANCE ITEMS

In 2019, SPC held 2 sessions of shareholders’ meeting, 4 session of board of supervisors’ meeting, and 5 sessions of meeting of the board of directors (“BOD”). The BOD meetings reviewed and adopted 27 proposals, including BOD audit committee meeting, BOD remuneration and assessment committee meeting, BOD nomination committee meeting and BOD strategic committee meeting, and successfully completed the discussion and review of various company proposals.



## COMMUNICATION ABOUT TOPICS OF SOCIAL RESPONSIBILITY

Guided by the requirements related to social responsibility, such as the “Guidelines for Report on Environment, Society and Governance” of the Hong Kong Stock Exchange and the “Guidelines for Sustainable Development Report” of the Global Initiative, SPC extensively consulted opinions from SPC’s internal and external stakeholders, constantly improved the process of defining topics and content of social responsibility report by benchmarking against the disclosure of the social responsibility topics of domestic and international advanced corporations identified and determined the topics of concern to various stakeholders, thus finalizing the extent and specific boundaries of the disclosed topics to ensure more accurate and comprehensive disclosure of relevant information on business management.

### Topic Screening Process

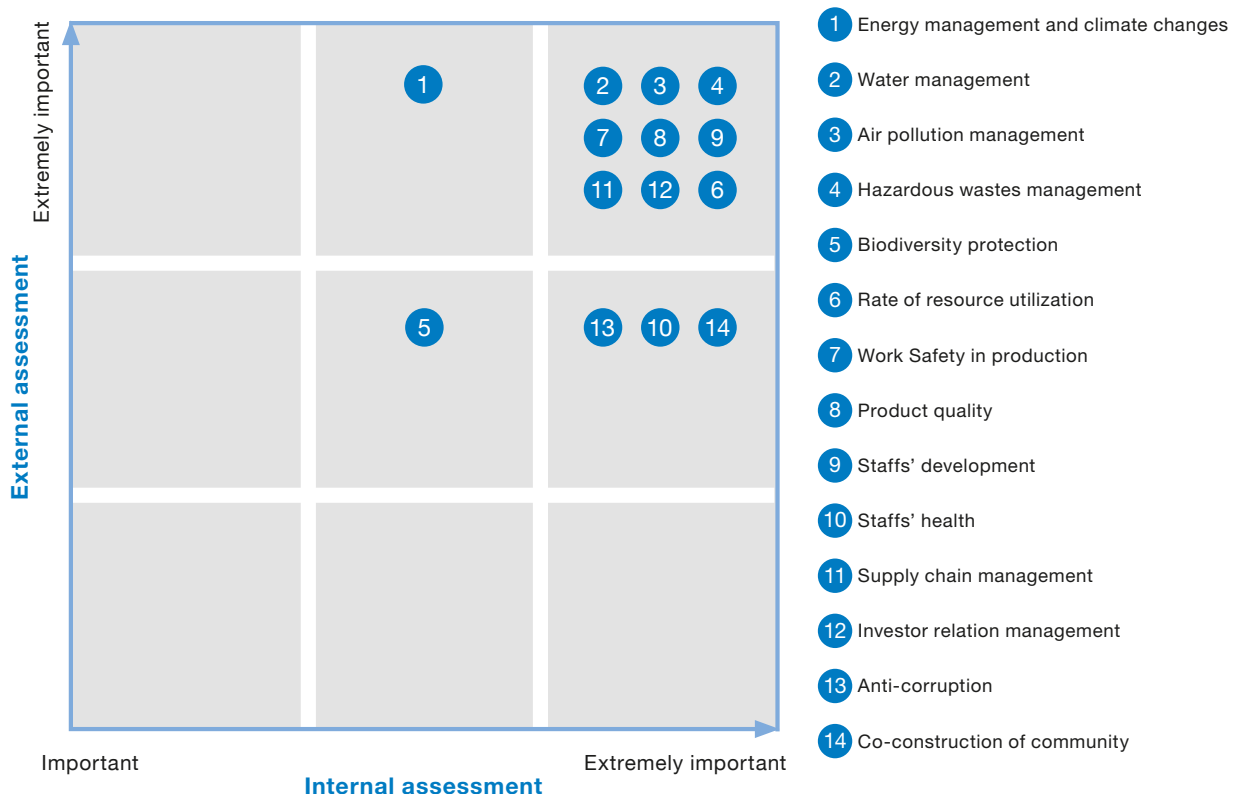
#### Main sources of topics

- Recommendations of SPC’s internal management
- Analysis and judgment of internal and external experts
- Analysis of various media information
- Industrial benchmarking and analysis of domestic and international corporations
- Making reference to guidelines for standards of social responsibility
- Proposals of employees’ democratic activities and worker’s congress
- Customers’ main concerns
- Conclusion of strategic cooperation agreement with local government
- Feedback from suppliers
- Consultation from public

#### Standard for screening of topics

- Stakeholders’ general main concerns
- Significant contributions to sustainable development
- Highlights of guidelines for social responsibility
- Coincidence with SPC’s development strategy

## 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 effectively integrated social responsibility performance with corporate development strategies, promoted the incorporation of social responsibility into all aspects of corporate production and operation, and set up the social responsibility management system from six aspects, including the responsibility strategy, responsibility governance, responsibility capability, responsibility incorporation, responsibility performance and responsibility communication. In 2019, SPC further strengthened the disclosure and management of social responsibility information in accordance with the requirements of regulatory agencies such as the State-owned Assets Supervision and Administration Commission, China Securities Regulatory Commission, Shanghai Stock Exchange and the Stock Exchange of Hong Kong, and strived to improve social responsibility management capability and management levels.



## Responsibility strategy

Build a domestically leading and world-class energy, chemical and new material company

- Improve and upgrade quality and efficiency
- Deepen reform and innovation
- Comprehensively strengthen the Party discipline



## Responsibility governance

Continuously improve the mechanism of management system for corporate social responsibility

- Green enterprise establishment steering group
- Legal corporate governance steering group
- Deepening reform steering group
- HSSE supervision management committee
- Corporate culture development steering group
- Information work leading group



## Responsibility incorporation

Scheme for incorporation of seven major responsibilities

- Strategic decision-making
- Crisis management
- Co-construction of community
- Staff development
- Green supply chain management
- Investors' relationship management
- Routine management



## Responsibility Performance

Continuously improve responsibility performance management

- HSSE related responsibility management
- Production operation related responsibility management
- Engineering construction related responsibility management
- Technology and economy related responsibility management
- Technical improvement related responsibility management
- Talent team development management



## Responsibility Communication

Diversified channels for communication of responsibilities

- Multimedia publicity
- Public Open Day program
- Publication of social responsibility report
- Co-construction of community
- Sunshine supply chain



## Responsibility capability

Develop six major responsibility capacities

- Strategic decision-making
- Safety and environmental protection
- Profitability
- Corporate culture
- System building
- Security of occupational health



## COMMUNICATION WITH STAKEHOLDERS

SPC attached great importance to the concerns and demand of stakeholders' interest. SPC constantly improved relevant participation mechanisms, strengthened communication and exchanges, strived to improve the transparency of the company's operations, and attended to collaborate with stakeholders to achieve win-win outcome.



### Governments and supervisory agencies

- Legal operations
- Safe and reliable products
- Implementation of energy conservation and emission reduction
- Promote industry progress
- Serve national economy and the people's livelihood



### Investors

- Maintain good operational performance
- Ensure stable operation situations
- Strengthen disclosure of operational information



### Customers

- Adhere to the concept of creating value to customers
- Satisfy customers diversified demand
- Provide premium quality products and services



### The public

- Improve the operational transparency
- Provide premium quality products



### Employees

- Ensure occupational health
- Safeguard employees' rights and interests
- Improve occupational skills
- Provide platforms of development
- Achieve a balance between production and living



### Industry and industry organizations

- Win-win cooperation
- Industry contributions
- Fair operations



### Suppliers and partners

- Open, fair and just procurement
- Honor credibility and keep promise
- Mutual benefit and win-win



### Community

- Co-construction of community
- Support public benefit
- Environmental protection
- Poverty relief

## HONORS OF RESPONSIBILITY

- Model collectives of central enterprises
  - Second prize of National Science and Technology Progress for the optimized control technology in maximizing the benefit of ethylene plant
  - 2019 China chemical logistics industry 'Golden Tank Award' outstanding responsible care enterprise
    - China Ethical Enterprise Award
  - The Youth Civilization Model Unit of Central Enterprises
    - China Environmental Friendly Enterprise
  - List of Top 100 Outstanding Enterprises of brand culture construction
    - Top 100 Innovative Chinese Listed Companies
  - Top 100 Enterprises of High-tech Achievement Transfer Projects
- 
- Sinopec Green Enterprise
  - Group and individual golden medal, silver medal and bronze medal in 2019 Group Company Business Contest
    - Sinopec Youth Civilization Model Unit
    - 2019 Sinopec Workers' Pioneer Unit
  - Group Company's Model Unit of Promoting Ideas
  - 2018 Group Company's model unit and model individuals in maintenance of stability
    - Group Company's outstanding organization prize for business contest
    - Group Company's youth post master
- 
- 2017-2018 Shanghai civilized enterprise
  - Shanghai Outstanding Contributors to the Cultivation of Skilled Talents in 2018
  - Outstanding Organization Award of Shanghai Industrial Youth Innovation Contest in 2018
    - The QC achievements of polyester technology were evaluated as Shanghai excellent quality management achievement
    - Outstanding Academician Station
  - Excellent Organization Unit of Boosting Science and Technology Innovation Series Activities initiated by Shanghai Science and Technology Association and the 17th Annual Academic Conference in 2019
    - Outstanding Organization Award for Shanghai Economic and Information System Vocational Skills Competition in 2018 China Skills Contest
    - Model Unit of Shanghai Conscription in 2018
  - The outstanding collectives for blood donation evaluation in Shanghai communities, enterprises and institutions in 2018
    - Shanghai Skills Master Studio
    - Shanghai Craftsman in 2019
    - Technical master in Shanghai
  - Honorary titles for collectives and individuals such as Annual May 1st Labor Award, Workers' Pioneer, Woman Pace-setter, Youth Civilization Model Unit, Youth Commando, Youth Post Master and etc.
  - Outstanding organization awards for activities such as "Shanghai Employee Work Safety Knowledge Contest" in 2019, "China Dream, Beautifulness of Labor" - the second session of Shanghai staff network photography contest, Shanghai Employee Literature and Art Performance to celebrate the National Day
    - 21st China International Industry Fair Awards



# REVITALIZE PETROCHEMICAL INDUSTRY WITH INNOVATIVE AND PRAGMATIC MINDSET



In the year when China's petroleum and chemical industries are at a turning point for high-quality development, SPC firmly established the concept of "challenging the advanced level and benchmarking the most stringent standard". Guided by the values of "better living is closely connected with petrochemical products" and targeting at new energy and advanced materials, SPC insisted on independent innovation, kept on improving quality, building smart plant, and was committed to improving the high-end supply capacity of the industrial chain to provide energy for better living.

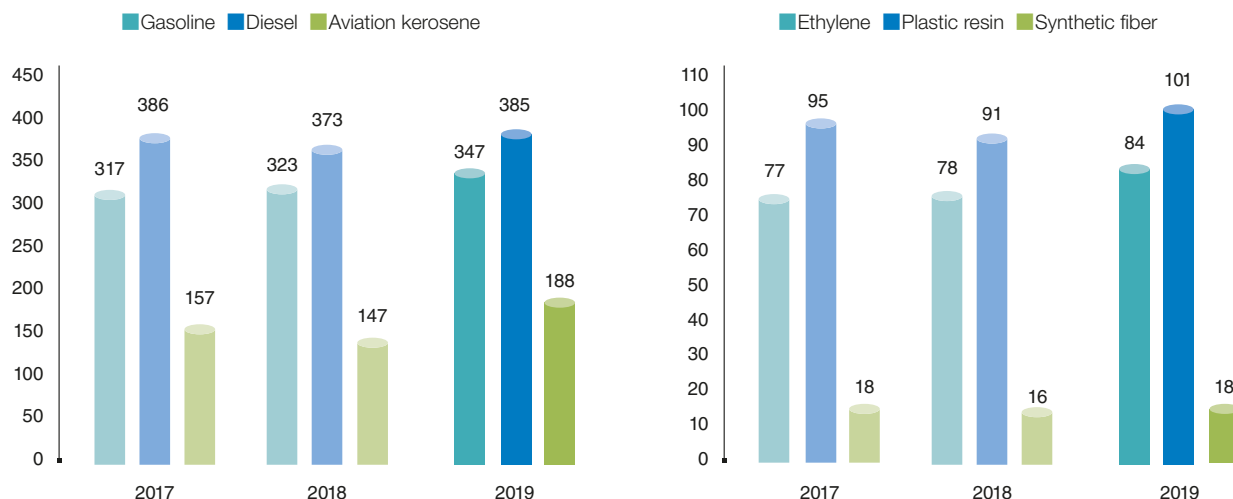
- 01 Focus on high-end supply
- 02 Jointly develop SPC quality
- 03 Make innovations in petrochemical technology
- 04 Build smart plant



## FOCUS ON HIGH-END SUPPLY

Guided by the "Development Planning of Petrochemical and Chemical Industry (2016-2020)" and the "Catalogue of Industrial Structure Adjustment (2019 Edition)", SPC adhered to the concept of "challenging the advanced level and benchmarking the most stringent standard", persisted with layout of new energy and advanced materials, and continued the cleanliness of energy products and the high-end of material products, thereby enhancing the high-end supply capacity of the industry chain and providing energy for better living in 2019.

Output of SPC main products in 2019 (10K Ton)



### Clean energy

- National VI standard gasoline and diesel
- Low-sulfur heavy bunker fuel oil, the first one in China



### Sustainable consumption

- Clean textile materials;
- Degradable environmental protection packaging materials;
- Food and drug contact packaging materials;
- Resin for engineering plastics;
- Carbon fiber for consumption purpose



### New construction materials

- Black piping materials to substitute imported ones
- Carbon fiber for construction purpose
- Carbon fiber for transportation purpose

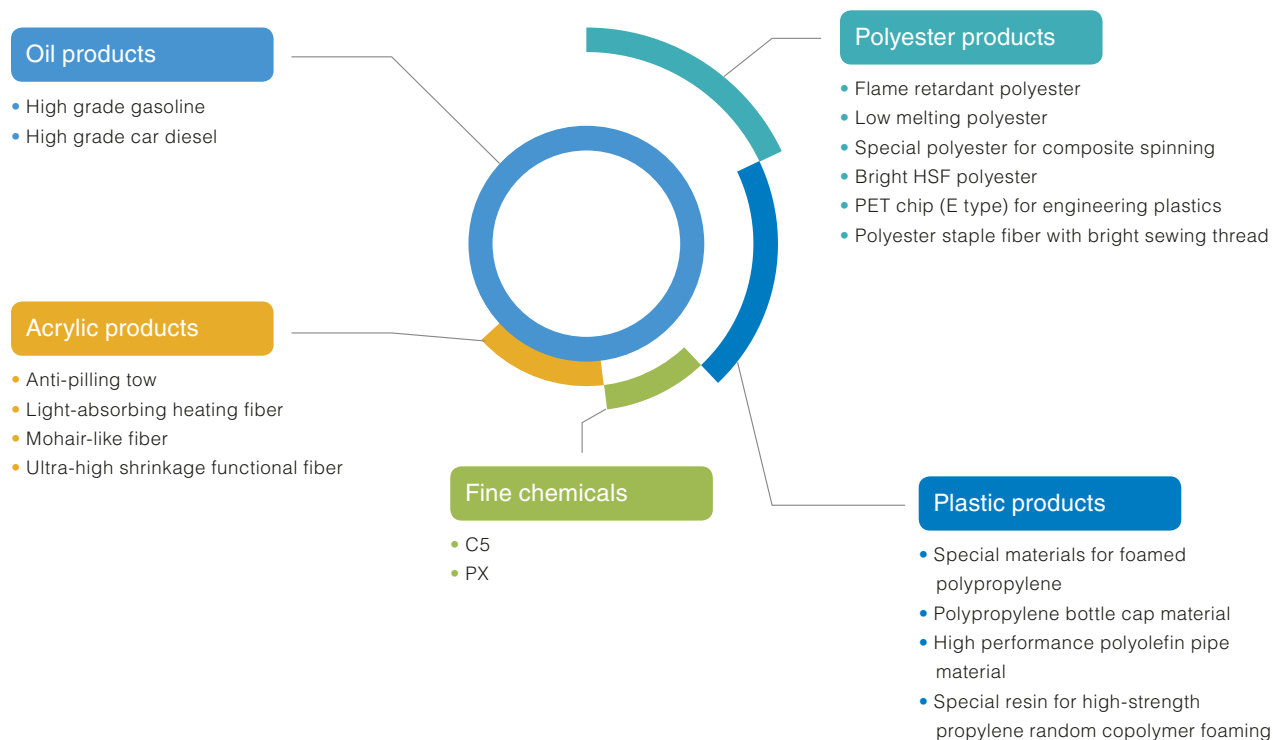


### New industry materials

- Fine C5 chemicals
- Industry carbon fiber



Guided the by market demand and aiming at the technological development trend of the industry, SPC adhered to the concepts of green, low-carbon, environmental protection, high performance, personalization and exclusivity, and increased the proportion of high value-added products in the product mix in 2019.



In 2019, SPC promoted production optimization and made adjustment through, production operation optimization, and process technology management in light of the production conditions and market conditions to ensure that SPC could adjust the product mix in time and supply high value-added products.



### Production event management

Set out control measures for unplanned shutdown in 2019;  
Manage stable operation rate of chemical plant.

### Innovation performance management

Added evaluation indicators of reliability, availability and utilization of production units in the production operation performance assessment;  
Strengthened the assessment of abnormal production events.

### Optimization of production operations

Focused on optimization of crude oil distribution, optimization of ethylene feedstock and reforming feedstock;  
Separate storage and sorting of HCU tail oil;  
Optimization of cracked naphtha.

### Process Technology Management

Optimized process alarm management, and the alarm rate had improved significantly;  
Optimized the management of automatic control rate;  
Implemented information management for process technology.

## JOINTLY DEVELOP SPC QUALITY

In 2019, SPC promoted the optimization and adjustment of the quality management organization, improved the process on process supervision, continuously improved the quality management efficiency and accuracy to ensure that all aspects which affects product quality were in a controlled state, boosted the high-end supply of the industry chain, and promoted SPC high quality development comprehensively.

The product compliance rate reached 100% throughout the year. There were no quality incidents and no quality complaints were received throughout the year of 2019. There were no recalls of the sold products due to any quality issues.

### Improve the quality management mechanism

Streamlined and optimized grass-roots quality management organizations;  
Part businesses were outsourced;  
Adopted point management for technical staff;  
Revised detailed rules of performance assessment.

### Improve quality management capabilities

Continuously improved SPC's integrated management system;  
Improved the laboratory management system;  
Promoted quality online analysis management;  
Organized quality break through and QC quality improvement activities.



### Strengthen quality supervision

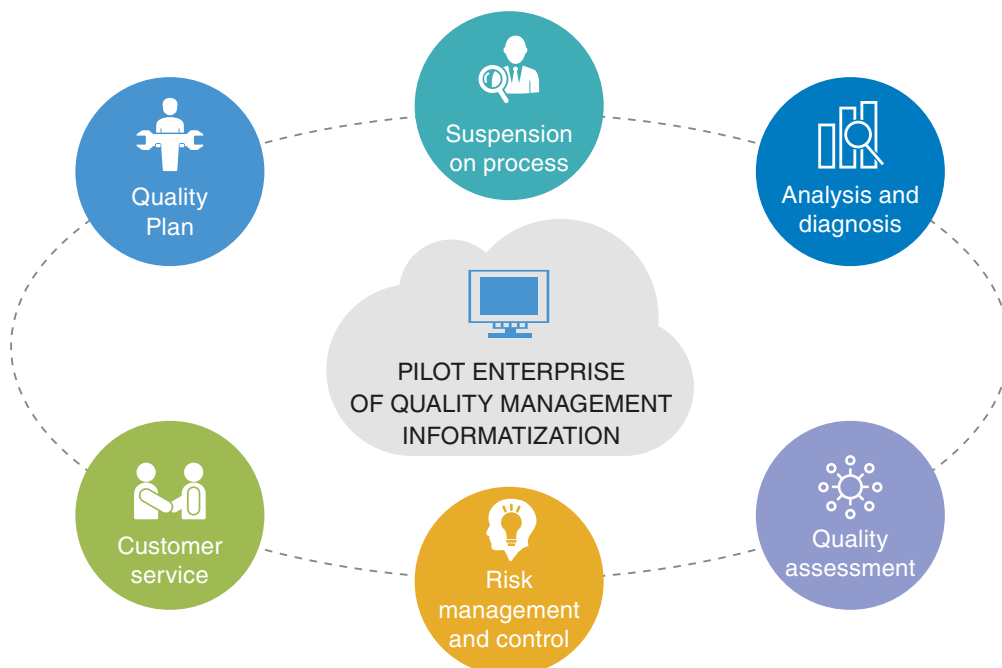
Strengthened product quality risk identification and control requirements;  
Perform internal quality control.

### Strengthen standardization management

Drafted two industrial standards, "Industrial Vinyl Acetate", "Industrial Vinyl Acetate, Part 7: Determination of benzene and benzene series, gas phase-mass spectrometry";  
Applied for the drafting right of two industrial standards of "Industrial n-pentane" and "Industrial Grade Large Tow Carbon Fiber".

As one of the two pilot enterprises of Sinopec's quality management informatization project, SPC passed the Perform assessment of Sinopec in 2019. SPC's quality management entered into the informatization stage.

SPC's "Experience in Applying Information Technology to Improve Quality Management Level" won 2019 Quality Benchmarking for Application Direction of "Internet +" awarded by China Petroleum and Chemical Industry Federation.



# MAKE INNOVATIONS IN PETROCHEMICAL TECHNOLOGY

## SPC'S TECHNOLOGICAL INNOVATION INITIATIVES IN 2019

### Innovation incentives

- Promoted the reform of the remuneration mechanism;
- Implementation of high-end leading plan for professional and technical talents.

### Scientific research management

- Improved talent evaluation system, job qualification system and tenure evaluation system.

### Innovation cooperation

- Regional collaborative innovation in the Yangtze River Delta;
- Explored examples of cooperative innovation between state-owned and private enterprises.

### Intellectual property

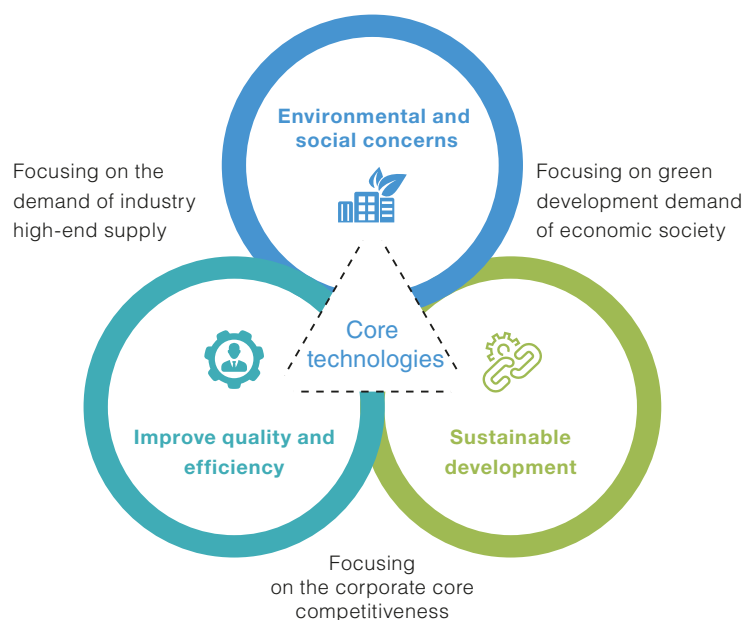
- Strengthened exploration and layout of proprietary technologies ;
- Intensified the intellectual property protection of improvement technology for production.

## NUMBER OF PATENT APPLICATIONS (PIECES)

2019		65
2018		71
2017		56

In 2019, based upon the green development demand of the society, industrial high-end supply and demand, and corporation's demand for improvement. SPC intensified the strength of research and development in the field of new energy and new materials. SPC stimulated innovation momentum through mechanism reform of the scientific and technological system, enhanced innovation vitality through optimization of scientific research management, and enlarged the sources of innovation through expansion of innovative cooperation models. SPC developed a series of new technologies to fill the domestic gaps or break foreign technology monopolies, which became a significant driving force in leading and supporting SPC's comprehensive and high-quality development.

## INNOVATION IS THE DRIVING FORCE OF HIGH-QUALITY DEVELOPMENT



### New technology

- National IV and above standard oil product cleaning technology
- Low-sulfur heavy bunker fuel technology
- Key technologies for fuel cell-grade hydrogen
- Smart circulating water system chemical and refining enterprises
- Treatment of PTA sewage with biological fluidized bed

### New materials

- Carbon fiber and its composite material
- Green and environmental friendly lightweight materials for cars
- Polymer materials for medical consumables
- High value-added special polyester material
- High performance polyolefin pipe material
- Nuclear grade anti-sag polyethylene pipe material

## STRIVE FOR NEW PROGRESS OF CARBON FIBER CAUSE

- ◆ Established independently managed Carbon Fiber Division
- ◆ Participated in the establishment of Shanghai Innovation Institute for Carbon Fiber Composites
- ◆ Established the first technical specifications for carbon fiber reinforcement
- ◆ Expanded the application field of carbon fiber Offshore Engineering, Civil Aviation
- ◆ Carbon fiber output increased by 28% on a year-on-year basis



## BUILD SMART PLANT

In 2019, SPC focused on the application of new generation information technology and intelligent manufacturing, comprehensively boosting informationalisation of construction. It was committed to promoting the construction of smart plant, fostering new capability with comprehensive sustainability that is compatible with SPC's strategy and promoting SPC's intelligent manufacturing progress.

### Production management and control

Intelligent production process  
Improved operation automation  
Achieved online optimization

### Equipment management

Early warning for expiration of  
critical equipment and preventive  
maintenance  
Improved asset lifecycle  
management

### Supply chain management

Established new operation management models  
Achieved optimization of supply chain based on  
the value chain  
Improved the efficiency of resource allocation  
and material management

### Safety and environmental protection

Carried out automatic monitoring and alarming system for the  
storage and transportation process of combustible, toxic and  
hazardous substances  
Automatic monitoring and alarming system for pollutant  
discharge  
Improved safety and environmental protection

### Energy management

Online optimization of energy  
production and consumption  
Improved energy saving and  
emission reduction

### Assistance with decision-making

Carried out correlation analysis and  
prediction with big data  
Improved refined and intelligent  
production management  
Improved scientific decision-making

## MATERIAL MANAGEMENT WITH BIG DATA



Logistics and warehousing

Production scheduling and procurement

Equipment operation

Demand plan

Waste utilization

Networking  
throughout  
the entire  
process

Full cycle  
intelligence

Visualization  
of the entire  
process

Physical flow

Information flow







# CREATE VALUE IN GOOD FAITH



SPC has always adhered to the management concept of “operating business in good faith and cooperate for win-win”, jointly created value with customers, suppliers and prioritised customers considering compliance with laws and regulations as the foundation.

01 Jointly create value with our customers

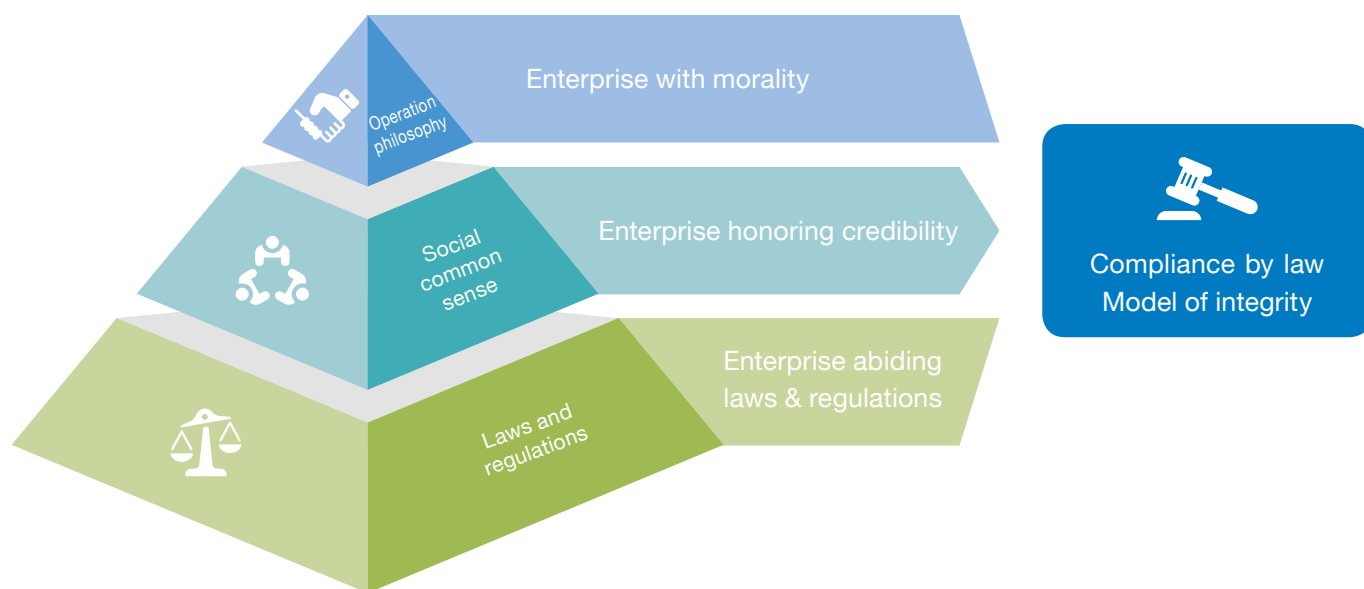
02 Build responsible supply chain

## JOINTLY CREATE VALUE WITH OUR CUSTOMERS

In 2019, SPC strictly abided by the requirements of national laws and regulations such as the "Product Quality Law of the People's Republic of China" and "Standardization Law of the People's Republic of China", considered quality as the core and customer satisfaction as the purpose. SPC also jointly developed with the customers in a mutually beneficial and win-win manner.

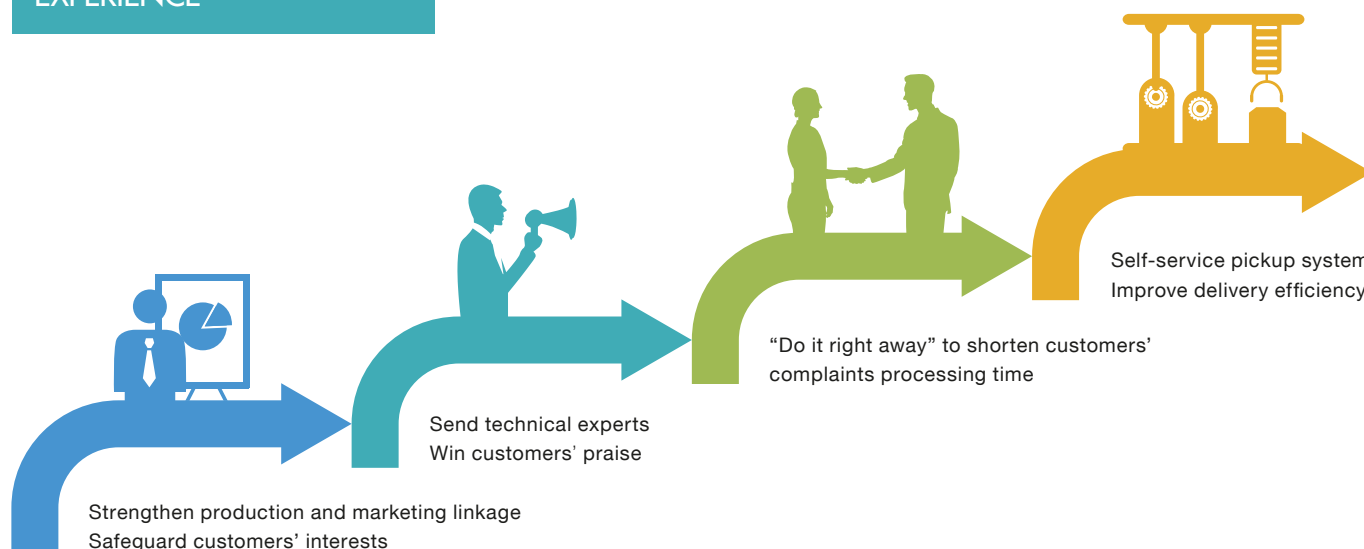
### OPERATE ACCORDING TO LAW AND CREATE A MODEL OF INTEGRITY

SPC abided by various laws and regulations and social morality, and won customers' trust and social honor with practical actions. SPC attached importance to operating with integrity, constantly improved rules and regulations, strengthened operational control, and consolidated the foundation of integrity.



### IMPROVE SERVICE QUALITY AND ENHANCE USER EXPERIENCE

SPC implemented the concept of "proactive service, standardized service, innovative service" to improve customer service standard and quality, and strengthen new product market development.



## CREATE VALUE WITH GREAT EFFORTS AND ENHANCE DEVELOPMENT CAPABILITIES

In 2019, faced with the grim situation of industry economies downturn pressure, SPC met the challenges, steadily pushed forward the progress of various tasks, and made significant progress.

Strengthened market research and judgment and improved price forecasting

Grasped business information and adjusted industrial structure

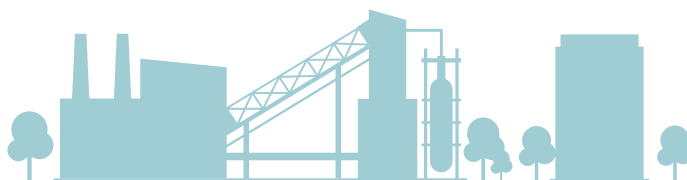


Increased production of beneficial products and strived for greater benefits

Strictly controlled marketing expenses and optimized logistics distribution

Tightened production and marketing linkage and improved operating efficiency

Introduced BI system and promoted intelligent sales



Deeply cultivated corporate culture and developed green enterprise brand

Selected in the Top 100 list and provided Shanghai sample

## HOLD JOINT DISCUSSIONS, CO- CONSTRUCTION AND SHARING, PROMOTE COOPERATION TO STRIKE FOR WIN-WIN

SPC actively implemented the strategy of “going out” and “bringing in”, made full use of domestic and international markets and two types of resources, strengthened strategic cooperation with governments, enterprises, universities, etc. in order to have complementary advantages, boosted the industry transformation and upgrading, and made contributions to local economic development.



Business communication  
with other Sinopec  
subsidiaries



Communication and  
discussions with  
governmental authorities



Implementation of “bringing in  
and going out” strategy, carried  
out technical exchange



Reached a cooperation  
intention with research  
institutions

# BUILD RESPONSIBLE SUPPLY CHAIN

While realizing its own development, SPC constantly established and improved suppliers' management system, built a responsible supply chain, and helped suppliers to achieve mutual benefit and win-win results for a better future.

100%

Online procurement rate

99.70%

Direct supply from  
manufacturers

92.34%

Purchase rate through  
invitation to bids

7.16%

Annual saving rate of  
purchase funds

## Established and improved responsible supply chain

Centralized  
procurement in  
accordance with laws  
and regulations

Revised and issued "SPC Rules on Management of Exclusive Procurement" and "SPC Rules on Management of Material Procurement through Bidding", and optimized suppliers' supervision and evaluation.

Strict suppliers  
access

Revised "SPC Measures for Management of Material Procurement and Supply of Resources", strictly selected and reviewed suppliers' qualifications, elected and commended outstanding suppliers.

Strictly control the  
material quality  
throughout the  
process

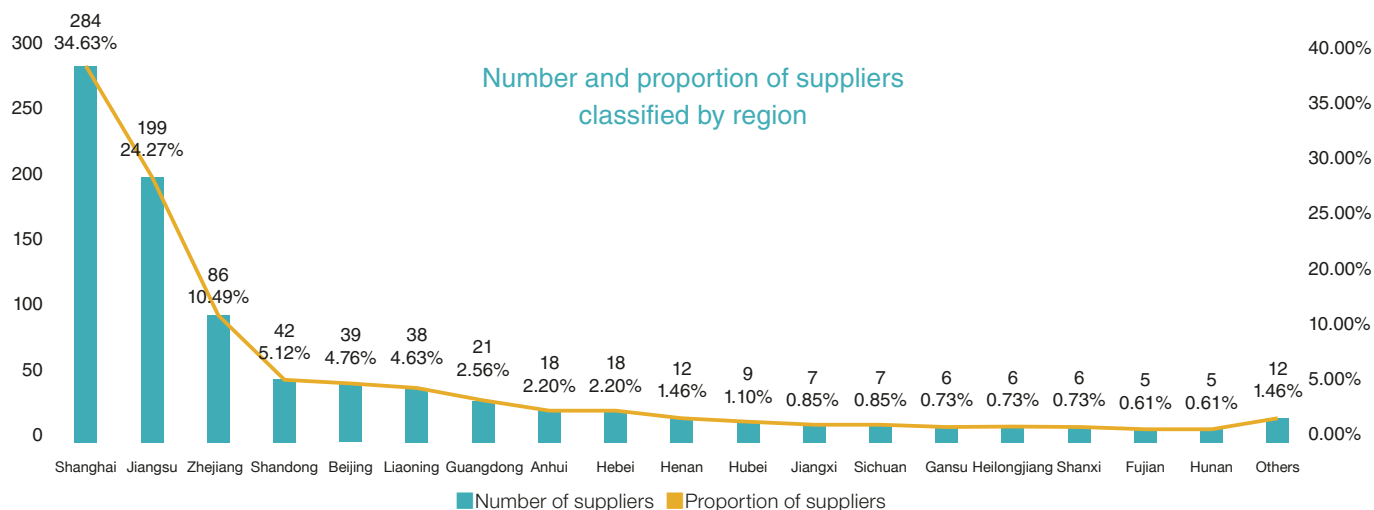
Controlled the supply progress of important materials, controlled the quality of material procurement, promoted the clear-up of residual materials, controlled the purchase price, and strictly controlled the cost to ensure benefit.

Build "green + smart"  
supply chain

Promulgated "SPC Rules for Management of Green Procurement of Materials", implemented green supply measures, introduced intelligent warehousing, and promoted the life-cycle supply chain.

Strengthen suppliers'  
risk management

Strengthened HSSE management, carried out suppliers' risk assessment and management, and optimized risk control and prevention measures from three aspects: safety, management, and integrity.



### CASE

SPC held "SPC Excellent Suppliers Commendation Meeting" in 2019 to recognize 30 suppliers who made positive contributions in production and operation, engineering construction materials and etc., and awarded them the honorary title of "2017-2018 Excellent Suppliers".







# DEVELOP BUSINESS THROUGH WIN-WIN COOPERATION



As the first company listed on the stock markets in Shanghai, Hong Kong and New York, SPC strictly abided by the securities supervision rules and regulations of the stock exchanges, strived to reduce costs, increase efficiency and improve operating performance by starting from the operating benefit. In the meanwhile, SPC strictly implemented various information disclosure systems, attached importance to investors' opinions and feedback, and earnestly safeguarded the investors' interests.

- 01 Improve operation performance
- 02 Safeguard investors' rights and interests

## IMPROVE OPERATION PERFORMANCE

In 2019, aiming at the objectives of “better benefit, higher efficiency, more excellent service, more powerful teams”, SPC put concerted effort to expand the market, reduce costs, improve benefit, consolidate the foundation, and improve operation performance and promoted long-term development.

### PROMOTE ENTERPRISE GROWTH AND IMPROVE ECONOMIC BENEFIT

RMB 45.636billion

Total assets

RMB 14.717billion

Total tax paid

RMB 100.346billion

Operating revenue

RMB 2.654billion

Total profit

7.14%

Weighted average return on equity

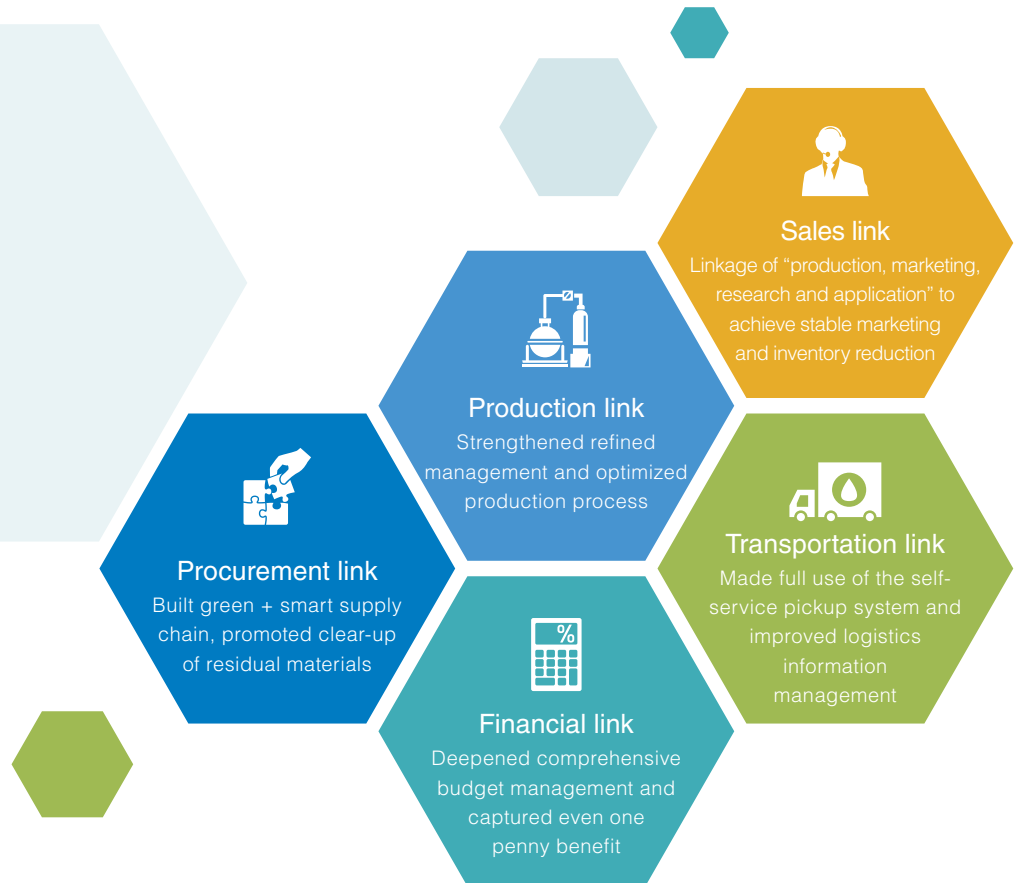
RMB 0.205

Earnings per share



## PARALLEL IMPLEMENTATION OF MULTIPLE MEASURES FOR COST REDUCTION AND BENEFIT IMPROVEMENT

SPC adhered to “benefit-oriented, demand-oriented, problem-oriented”, further promoted supply-side structural reforms, benchmarked advanced enterprises in the industry, continuously improved enterprise operation and management, constantly reduced the costs in areas such as production, procurement, sales, transportation, and finance. SPC took multiple measures at the same time to increase corporate benefit with great efforts.



**“Energy Day Equilibrium Work”**  
Effectively reduced energy consumption by adopting the method of “Balancing Work on Energy Day”



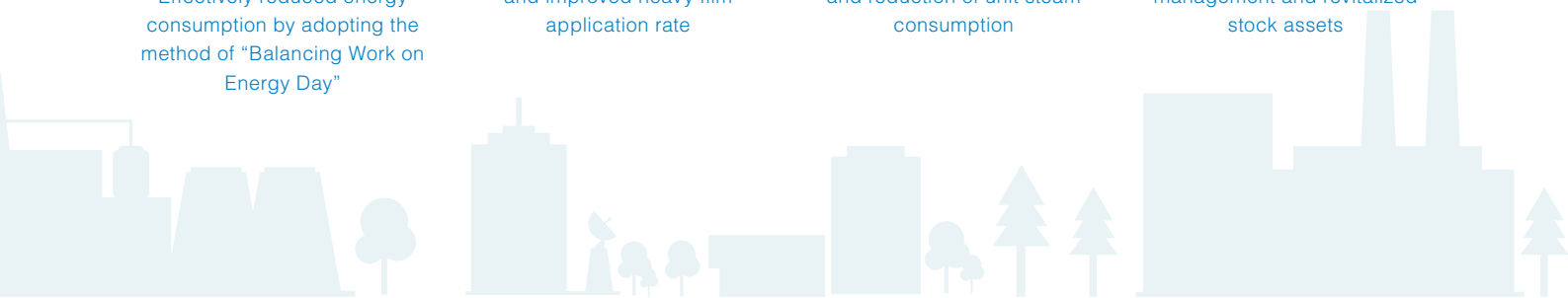
**Optimized heavy film formulation**  
and improved heavy film application rate



**Efficient reuse of condensate**  
and reduction of unit steam consumption



**Strengthened residual material**  
management and revitalized stock assets



## SAFEGUARD INVESTORS' RIGHTS AND INTERESTS

In 2019, SPC further improved the quality of information disclosure of listed companies, strengthened and expanded communication with investors, enhanced the transparency and integrity construction in company's operations, improved the corporate governance, and fully safeguarded the legitimate rights and interests of investors.



### IMPROVE THE INFORMATION DISCLOSURE QUALITY

- Prepared the annual report, six-month report and quarterly report on a regular basis, and updated the 20F form registered at the Securities Regulatory Commission of USA.
- Published 16 provisional reports, including resolutions of BOD and board of supervisors, shareholders' meeting, main product operation data and etc.
- Strictly reviewed the progress and quality of bulletin preparation to ensure timely, accurate and complete information disclosure.



### IMPROVE THE INVESTORS' RELATIONSHIP MANAGEMENT

- Held road shows of performance presentation, including press conferences, analyst and fund manager lunch presentation meeting and one-on-one meeting.
- Received call inquiries and visits from overseas investors, media and etc., enhanced communication and exchange with investors.
- Attended the investors' meeting, communicated with fund managers and securities analysts, and highlighted the corporate values.



### STANDARDIZE CORPORATE OPERATIONS

- Formulated the "Directors' Nomination Policy" and standardized the director selection process.
- Standardized daily connected transactions and prevented potential legal risks.
- Revised the Internal Control Manual and improved the information disclosure process.

### PUBLIC OPEN DAY PROGRAM FOR INVESTORS

Invited more than 40 fund managers, analysts, and individual investors to visit and communicate with SPC, and visit SPC's units of Plastic Division, plant history exhibition hall, and petroleum technology hall.







# 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 circular economy
- 04 Boost low carbon development



## STRENGTHEN SAFETY MANAGEMENT

### HSSE MANAGEMENT IMPROVED COMPREHENSIVELY AND SPC'S SAFETY MANAGEMENT PRESENTED STABLE TENDENCY

In 2019, SPC earnestly followed the principle of "the person in charge of the business shall be responsible for the business, the person in charge of the area shall be responsible for the area, the person in the post shall be responsible for the post" and "identical responsibility for Party and government offices", and fully implemented the such principles and improved HSSE management system with the most stringent standard and requirements; comprehensively promoted process management, improved professional management and control capabilities; strengthened fire emergency management, improved emergency rescue capabilities, and strived to create the HSSE performance of "domestically leading and world-class" refining and chemical enterprise. SPC did not have any major or extremely serious work safety incidents throughout the year, and the overall situation of HSSE presented a stable tendency.



### FULLY IMPLEMENT THE ENTITY RESPONSIBILITY OF SAFETY MANAGEMENT ESTABLISH AND IMPROVE THE HSSE MANAGEMENT SYSTEM

#### Implement the group company's HSSE management system

SPC's HSSE management system was released on October 30, 2019. Six leadership teams, 17 offices, and 22 secondary organizations signed HSE responsibility letters. The on-post signing rate reached 100%.

#### Strengthen legal compliance and ensure production operation complies with the law

SPC's safety project of "three simultaneities (the design, construction and operation of the environmental protection facilities should be performed simultaneously with that for the production plant)" was successfully progressed, and 26 safety pre-assessment projects were completed. Information review, registration and review of 6 newly added delivery of hazardous chemicals, 7 raw materials for hazardous chemicals, and 33 registered hazardous chemicals were continuously implemented.

#### Enhance HSSE training and special activities

Held various HSE management training courses with a total of participation of 22,861 persons, carried out 4 work safety monthly activities and 2 special work safety circuits to enhance of the safety awareness of all employees.

#### Strictly implement HSSE performance assessment and management informatization

Implemented the monthly HSSE performance assessment and evaluated 18 organizations for 230 times; carried out safety and environmental protection labor contests and rewards of outstanding performance, and distributed more than RMB 6 million rewards; played role of safety management information system; actively improved emergency command and direct operation management information system construction.



March 2019 • June 2019 • October 2019 • November 2019



## COMPREHENSIVELY BOOST PROCESS MANAGEMENT IMPROVE PROFESSIONAL MANAGEMENT AND CONTROL



## STRENGTHEN FIRE EMERGENCY MANAGEMENT IMPROVE EMERGENCY RESCUE CAPABILITIES



### Strengthened professional safety management of production and operation

Strengthened the risk identification and assessment of the major items of the production system and implemented process safety management. Promoted full coverage of alarm management devices. Strictly implemented the blind management system and change of process management, and strengthened refined management.

### Strengthened professional safety management of various types of equipments

Implemented regular inspection of special equipments and ensured legal and compliant use; promoted quantitative inspections and failure diagnosis, and improved predictive maintenance management; comprehensively carried out special general surveys to ensure the intrinsic safety of equipments.

### Strengthened on-site HSSE supervision and management

Carried out on-site supervision and random inspections, contractor inspections and performance assessments, revised and refined the review of major operational reports, and strengthened on-site supervision. Leaders took personal charge of 652 shifts, went to the grassroots units for 2720 times, and rectified 1072 potential safety hazards. Organized 9 various professional safety inspections to eliminate hidden dangers of incidents.

### Strengthened contractor safety supervision and management

Strictly implemented the contractors' qualification assessment, special audit and induction safety education and training, regularly organized assessment various meetings with contractors, and incorporated contractors into the company's HSSE management system. Since September 2019, SPC started to carry out interview review for key management personnels of SPC's related contractor projects.

### Strengthened risk prevention and control and overall inspections of hidden danger

Adjusted the company-level list of risks, including 6 company-level major risks and 5 company-level large risks, set annual risk management targets, and implemented responsibilities of management and control. In 2019, SPC completed overall inspections of 24 potential safety hazards, and found a total of 2382 potential hazards, with a rectification rate of 100%.

### Strengthened the safety management of hazardous chemicals

Carried out comprehensive investigations and inspection of hazardous chemicals, conducted spot checks of contractors, and urged them to make rectifications to eliminate potential hazards. Adopted "one label for one product manual" management for the procurement management of hazardous chemicals. Completed the re-identification and re-classification, assessment and registration of major hazard sources of all hazardous chemicals.

### Improved construction of grassroots emergency response teams

13 major production units set up grassroots voluntary emergency response teams, and in total more than 2,000 employees completed enrollment for the team building. Established the emergency rescue center and improved the emergency expert pool.

### Conducted comprehensive emergency response drills

In 2019, organized 908 times of emergency response drills, with a total participation of 13,221 persons. Further enhanced the fire rescue team's ability to jointly deal with emergencies and rescue.

### Strengthened emergency training for grassroots employees

Conducted 156 spot checks to ensure the procedure formation and standardization of grass-roots emergency drills, and provided 370 times of trainings on drills of fire-fighting and emergency escape to all secondary organizations to improve the staff's theoretical knowledge, practical operation level and maintenance ability.

### Strengthened the management of company fire-fighting facilities

Strengthened the maintenance and inspection of the company's fire (gas) safety facilities, replaced more than 10,000 various types of fire extinguishers, conducted 86 times of fire safety inspections, newly purchased various types of fire engines, gas protection vehicles, and fire-fighting robots, and improved the emergency rescue hardware facilities and response capabilities.

## IMPROVE PROCESS FLOW DIAGRAMS AND ELIMINATE HIDDEN DANGERS OF WORK SAFETY

SPC was committed to completely eliminating the hidden dangers of work safety caused by the mismatching between the existing process flow diagram and the actual situation on site due to technical revamping. The picture shows that the process leader of SPC Polyolefin Complex of SPC Plastics Division was working overtime to modify and perfect the process flow diagram under the hot weather.

## SAFETY INSPECTIONS DURING THE INTERNATIONAL IMPORT EXPO

SPC actively carried out safety inspections in key positions and special walk-around inspections of facilities, and took great efforts to ensure that the utility support facilities produced by SPC could be operated "safely, stably, long term, satisfactorily and optimally" during the International Import Expo. The picture shows the electrical and instrumentation workshop number 6 of SPC's electrical & instrument center was conducting comprehensive inspections and fault eliminations at the SPC's key and vital areas and key fire fighting units.

## SAFETY MANAGEMENT, ELIMINATION OF POTENTIAL HAZARDS IN HANDLING OF HAZARDOUS CHEMICALS

Eliminated the potential safety hazards of the handling point through the implementation of the hidden danger treatment project at hazardous chemical loading/unloading points, thus promoting the refinement, scientization and standardization of safety management. The number 2 Oxidation Complex of SPC's Polyester Division adopted the loading arm for loading/unloading operations, and combined multiple loading and unloading points in a centralized manner, which greatly reduced the potential safety risks in hazardous chemicals loading and unloading.

## ACTIVELY FULFILL SHANGHAI MUNICIPAL SOCIAL EMERGENCY RESCUE MISSION

SPC's Fire Fighting Detachment accepted team flag of Shanghai hazardous chemicals rescue team. As the first batch of Shanghai municipal emergency rescue team members, it means that they will fulfill the Shanghai social rescue mission and the duties of the municipal social emergency rescue team and will provide a solid guarantee for creating a safe and stable social environment and maintaining the safety of people's lives and property.





## STRENGTHEN ENVIRONMENTAL PROTECTION

Targeting at the objectives of building a “resource-saving and environment-friendly enterprise”, SPC promoted the HSSE management system, actively carried out activities such as clean production, pollution control, creation of green enterprises, and environmental cooperation to move forward the target of creating green enterprises, and was selected as “Sinopec Green Enterprise”. 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.

	2017	2018	2019
generation of hazardous wastes (unit: 10 K Ton)*	1.00	1.40	1.49
generation of non-hazardous wastes (unit: 10 K Ton)	67.23	81.54	72.37
COD (Ton)	1,691.94	1,276.14	1,161.04
Ammonia nitrogen(Ton)**	46.12	28.04	68.30
Sulfur dioxide (Ton)	660.54	237.76	220.63
NOx (Ton)	2,416.71	1,450.94	1,266.74

\* Since 2018, due to an increase of statistical scope, there is a sharp increase in the hazardous waste generation.

\*\*In 2019, because of an equipment upgrading project for wastewater treatment, NH<sub>3</sub>-N concentration at the general outfall increases dramatically.

## PROMOTE THE CREATION OF GREEN ENTERPRISE

SPC actively responded to the requirements of the “Sinopec Green Enterprise Action Plan” and vigorously boosted the establishment of green enterprises, including six major plans of green development, green production, green energy, green technology, green services and green culture. SPC actively created a “green enterprise” establishment atmosphere, built a “clean, efficient, low-carbon, recycling” green refining and chemical enterprise to assist the company’s high-quality sustainable development.

### CASE

SPC promulgated the “Green Enterprise Convention”, which formulated specific constraints in terms of saving water and electricity, eliminating extravagance and waste, encouraging low-carbon travel, and garbage classification. The company continued to promote clean production plans and continuously improved clean production level, thus contributing green clean kinetic energy to attaining the goals of establishing a world-class energy and chemical enterprise.



## STRENGTHEN POLLUTION CONTROL

### WASTEWATER TREATMENT

#### Modifications of sewage treatment plant

SPC set up artificial ecological floating islands to achieve the unity of self-purification and landscaping of the water body.

#### Innovation of wastewater degradation technology

By use of PTA sewage biological fluidized bed unit, SPC increased the load of sewage COD by 2-3 times of that of the conventional contact oxidation process. This unit is used first time in Sinopec system that adopts biological fluidized bed technology to treat PTA degradation-resistant wastewater.

### WASTE GAS TREATMENT

#### Beforehand: technical revamping and upgrading

SPC actively carried out technological revamping of high-temperature direct-fired incinerators, technical revamping of catalytic flue gas desulfurization unit, technological revamping of advanced helium leakage test, technological revamping of diesel absorption, and optimization of operating parameters of critical process points of environmental protection facilities. In 2019, the cumulative average concentration of 36 types of VOCs at SPC was 135.6 microgram / m<sup>3</sup>, a decrease of 3.83% on a year-on-year basis, and the concentration level of VOCs in the surrounding environment decreased significantly.

#### Interim: centralized collection and treatment

SPC realized the centralized collection and transportation of storage tank waste gas, waste water pool waste gas and regenerated flue gas through the combined waste gas treatment system of sewage tank overhead gas collection + direct-fired incinerator, etc. As a result, the pollutant removal rate is greatly improved, and the pollutant discharge concentration is greatly reduced.

#### After the event: control of emission results

SPC promoted standardized management of production and operation, listing the critical factors and indicators that affected the quality of flue gas, optimizing the control indicators for environmental protection facilities, improving the emergency response system for abnormal internal control indicators, and implementing on-duty analysis and current day processing of abnormal emission data, and 100% compliant flue gas emission.

### HAZARDOUS WASTE TREATMENT

In 2019, SPC reduced hazardous waste by 73.46 tons through polyglycol minimization, and reduced hazardous waste by 874.76 tons through waste lubricants and white oil recycling.





## STRENGTHEN CLEAN PRODUCTION

SPC regularly held clean production meetings, actively promoted the company's clean production review and acceptance, and timely adjusted the company's organizational structure of clean production. The company, secondary organizations, and production workshops established clean production steering groups, working groups and clean production offices, respectively.

Establish a  
long-term  
mechanism

Strengthen  
source  
control

SPC carried out comprehensive environmental improvement in Jinshan district and comprehensively promoted LDAR work. SPC improved the environmental monitoring system, monitored the discharge of pollutants and achieved traceability in an all-weather, entire process and networking manner.

SPC established and improved the incentive mechanism for clean production, conducted activities such as "I contribute one idea to the environment", encouraged employees to proactively participate in clean production, explore the potential of clean production and propose clean production options.

Motivate  
all staffs  
participation

Clean  
production  
audit

SPC passed the clean production audit and acceptance of Shanghai Administration of Ecological Environment on December 26, 2019. The evaluation score was in the forefront of the industry in Shanghai. The 109 schemes of no fee/low fee and 25 schemes of medium fee/high fee had reached the objective of clean production, which had effectively improved the corporate and surrounding environment quality.

## ENVIRONMENTAL COOPERATION BETWEEN ENTERPRISES AND LOCAL GOVERNMENT

SPC closely followed the pace of Shanghai to create a global outstanding city, actively combined the "Green Enterprise Creation Plan" with Jinshan District's plan of creating an "Ecological City" and "National Ecological Demonstration Zone", promoted the normalization of the mechanisms of communication between enterprises and local government, strengthened sharing of data resources and technology management exchange, led other companies in the chemical industry to co-develop, and strived to attain the target goal of "coexistence and co-prosperity of green chemical industry and outstanding city".



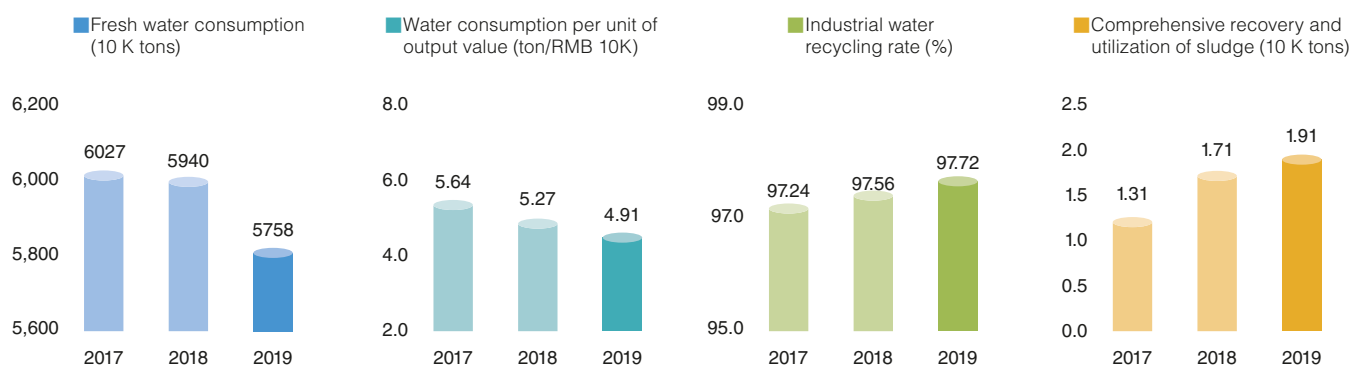
## DEVELOP CIRCULAR ECONOMY

SPC strictly abided by the laws and regulations on the use of resources, established the concept of circular economy, and adhered to the path of circular economy through technical revamping and comprehensive utilization of resources. As a result, the water recycling, waste gas recovery management, and comprehensive recycling of waste improved greatly.

As SPC's industrial water is sourced from the surface water and domestic water from municipal water supply, there are no problems and risks related to applicable source of water.

### RESOURCE UTILIZATION EFFICIENCY IMPROVED

SPC actively developed circular economy. The total water consumption and intensity continued to decrease, and the industrial water utilization rate and sludge recovery constantly improved.



### WASTE GAS RECOVERY AND TREATMENT

#### Full recycling of high-sulfur flare gas

SPC optimized and modified the existing high-sulfur flare gas system, and additionally installed a 30,000 m<sup>3</sup> gas holder to achieve 100% recycling of high-sulfur flare gas and all gas materials, which further consolidated the cornerstone of SPC's green development.

#### Harmless treatment of tank exhaust gas

SPC put into operation of a new RTO furnace for harmless treatment of storage tank exhaust gas. By introducing 3 new exhaust gas treatment processes, SPC newly built 11 sets of exhaust gas treatment units to achieve full coverage of 118 storage tanks and 31 types of material exhaust gas for treatment in all conditions in the tank farm.

#### Waste gas treatment technology won silver award

In Shanghai Industrial Youth Innovation Competition in 2019, "The Waste Gas Treatment Project of SPC' Olefin Division" stood out from 290 innovative projects in all walks of life in Shanghai and won silver award. SPC innovatively adopted the "absorption + desulfurization + pressure swing adsorption" process technology for centralized treatment of waste gas, which can achieve the waste gas recovery rate close to 100%, and greatly improve the site environment of the plant.





## WASTE WATER RECYCLING



### Full centralization of cooling water

SPC implemented centralized management of circulating water, transferred the management of cooling water unit and assets to the Division of Water Service and Environmental Protection for unified management, comprehensively sorted out and revised the cooling water related systems, and optimized the production and operation management of cooling water unit by standardizing production operation and technological management requirements.

### Strengthen data management of cooling water

SPC strengthened the data management of the cooling water after centralization through information centralization and increased remote control of the equipment, and focused on maintenance of the ERP as well as comprehensive statistics and other systems and testing of simulated data.

### Line up the links to increase water supply

SPC ensured stable, high-quality and high-load operation of sewage treatment plant, achieving that the flow rate of recycled water from sewage treatment plant increased from 500 tons per hour last year to more than 900 tons, and the ratio of fresh industrial water dropped from previous 16% to 12.3%. As of the end of 2019, The external supply of recycled water from the sewage treatment plant had cumulatively reached 6.019 million tons, an increase of 45.82% as compared to last year.

### Increase recycling of the sewage

SPC's Production Division and HSE Division jointly carried out inspection of the switchover operation logs of rainwater and sewage and issued weekly notifications. In 2019, the water recycling capacity of the sewage recycling unit increased to 720m<sup>3</sup>/h, and the sewage recycling rate increased to 44.73%.

### Modification of reclaimed water recycling equipment

SPC put into use of the reclaimed water recycling project, which saved about 70,000 tons of industrial water per month and save cost by nearly RMB 500,000 per year.

### Recycling of condensed water

SPC changed the raw material of the steam drum of number 2 APS/VPS to condensed water generated by number 2 light ends recovery unit, which achieved significant decrease of the APS/VPS steam makeup and unit steam consumption of the plant.

### Optimize plant production operation management

SPC improved the on-site water service management and ensured compliant discharge of the sewage treatment system by developing schemes for receipt and disposal of the waste water from overhaul, running the defect reporting system and strengthening the water quality monitoring methods.



## COMPREHENSIVE RECYCLING

SPC actively promoted the “reduction, recycling, and harmlessness” of solid waste, and carried out reduction of biochemical sludge, oil sludge, waste acrylic fiber and waste rubber as well as green packaging of three chemicals etc.. As a result, the level of comprehensive recycling of waste constantly improved.



### Recycling of stock solution

SPC put into operation of the online environmental treatment unit of dope dyed acrylic fiber for recycling of the intermediate output of dope dyed acrylic fibers. In 2019, 46 tons of intermediate output of dope dyed acrylic fibers was recovered and recycled, and the recycling rate was 100%, which cumulatively increased benefit by approximately RMB 1.1 million.

### Recovery of flue gas heat

SPC improved the technical revamping technology for heating furnace, and every department cooperated to work out the rolling plan for modifications of the high-load heating furnace, so as to ensure the recovery of heat from flue gas emissions and reduce fuel consumption.



### Strengthen utilization of heavy film

By optimizing the heavy film formula, strengthening post operation management, and pairing for co-construction with the Film Branch Company of Gulf Incorporation, SPC achieved increase of the utilization rate of heavy film, a packaging material, to 98.43%, lowering the productivity costs.

### Recycling of tar

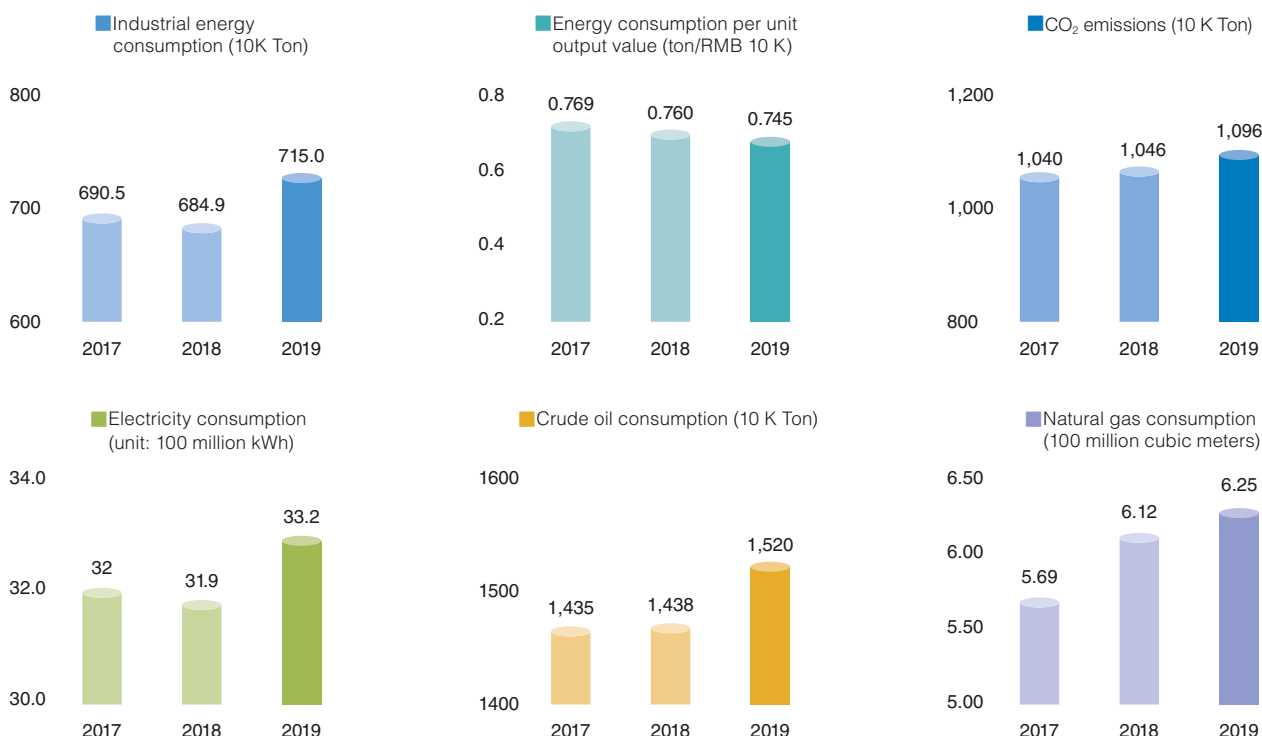
SPC put into operation of the butadiene coke removal system revamping project, and changed the butadiene tar (lump), which was originally delivered as hazardous waste, to a carbon black raw material with a price of more than RMB 2500 per ton for delivery, thus achieving benefit from recycling of wastes.





## PROMOTED LOW-CARBON DEVELOPMENT

SPC actively carried out production optimization, incorporated the low-carbon development indicators into management, continuously pushing forward the enterprise energy conservation assessment, energy balance testing, energy substitution, etc., improved comprehensive utilization of resources, optimized energy management, and continuously reduced energy consumption and emissions. As a result, all industrial areas maintained safe and stable operations throughout the year.



## STRENGTHEN ENERGY MANAGEMENT

### Online operation of energy management system

Through a trial on-line operation of the energy management system and line-up of the entire energy business process of energy planning, operation, optimization, analysis and statistics, SPC achieved "clear definition", "effective management" and "fruitful saving" in energy consumption management.

### Implementation of the "Energy Daily Balance" method

SPC promoted the implementation of "Energy Daily Balance" method to conduct real-time analysis of single-day abnormal energy consumption. The cumulative energy consumption of EOEG unit was significantly lower than the planned indicators.

### Strengthen energy conservation and energy efficiency management

SPC established Shanghai Shidian Energy Co., Ltd. to provide comprehensive energy services such as energy supply service, energy conservation and energy efficiency management, and big data analysis of energy consumption, so as to support SPC's efficient, clean and safe energy consumption.



## ENERGY-SAVING REVAMPING AND ENERGY-SAVING EMISSION REDUCTION

### Optimization of energy saving management

SPC reduced carbon emissions through change of oil to gas, reduction of ethylene tar consumption, replacement with natural gas, etc., and reduced energy consumption through management of energy saving, optimization of energy performance parameters, and energy saving technological revamping projects. In 2019, SPC's energy consumption per unit of output value was 0.745 tons /10,000 RMB, decreased by 1.98% on a year-on-year basis.

### Implementation of carbon transaction

SPC actively carried out CCER transactions, and allocated 116,700 tons of quota to Chao Teng Company by way of online agreements, and obtained a spread income of more than RMB 2,509,100..

### Carbon recovery

Carbon dioxide recovered from the technological process of EG unit is sold by SPC as a product for the production of food-grade carbon dioxide. In 2019, over 84,000 tons of CO<sub>2</sub> was recovered.

### Promotion of energy saving and emission reduction

SPC conducted energy-saving promotion activities such as "green organizations", green energy-saving knowledge contests, energy-saving technology exchanges and energy management training. SPC had won awards such as "golden ideas" and "silver ideas" for energy conservation and emission reduction, and raised awareness of energy conservation, emission reduction and low-carbon, and boosted the enterprise green development.

## ACTIVELY PROMOTE CLEAN ENERGY

### Utilization of clean energy

SPC focused on the development of clean energy such as wind energy and hydrogen energy, and adopted by-product hydrogen produced in the course of natural gas hydrogen production and consolidation for supply of hydrogen to production. SPC also compulsorily destroyed the forklifts that were manufactured before 2009 and used new energy forklifts as far as possible at the job area, so as to solve the problem of incompliant emissions of forklifts.

### Clean Energy Cooperation

In 2019, SPC together with a total of 31 companies in the Yangtze River Delta initiated the establishment of the Yangtze River Delta Hydrogen Energy Infrastructure Industry Alliance (YHIIA). SPC is committed to becoming the designer and implementer of the comprehensive solution for hydrogen energy infrastructure in the Yangtze River Delta and promoting "Gas-vehicle-station-use" integrated development for the hydrogen energy industry in the Yangtze River Delta.

## BIODIVERSITY CONSERVATION

SPC adhered to harmonious co-existence with nature, striving to reduce the impact of production activities on the ecological environment, taking efforts to increase carbon sinks, and actively participated in the activity of "Internet + National Voluntary Tree Planting". During the activity, over 8,000 employees donated more than RMB 0.75 million to claim the planting of trees. In 2019, SPC's total landscaping area reached 2,741,600 square meters, with a green coverage rate of 39.8%.





# PEOPLE FOREMOST, BENEFIT STAFFS



SPC respects and safeguards the rights and interests of employees, cares for their physical and mental health, attaches importance to talent cultivation, and builds a diverse and just promotion channel.

01 Harmonious labor relations

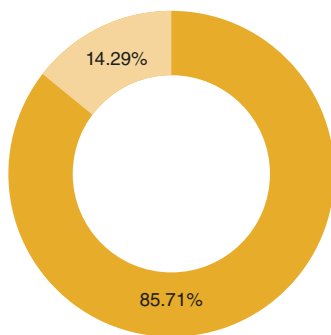
02 Occupational health and safety

03 Boost employees' career development

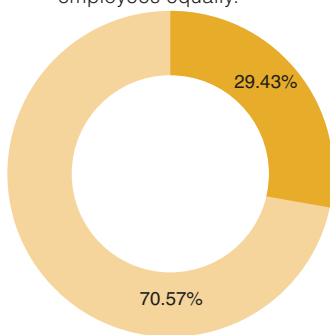
## HARMONIOUS LABOR RELATIONSHIPS

SPC abides by the "Labor Law of the People's Republic of China" and the Trade Union Law of the People's Republic of China, respects and safeguards the employees' rights and interests and equal opportunities, prohibits the use of child labor and the forced laborer and protects the employees' privacy; SPC establishes and perfects diversified daily consultation and communication mechanism between management and employees for establishment of harmonious labor relations. By the end of 2019, there were 8878 employees at the Company. The employee turnover rate in 2019 was 0.42%, in which that of local employees was 0.19%. 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.

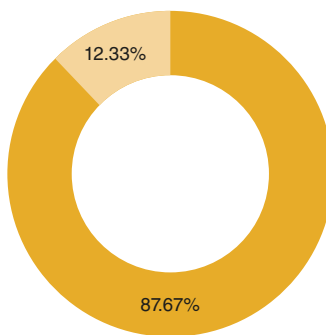
The Company strictly prohibits discrimination on account of gender, region, religion, nationality, etc. in terms of recruitment, compensation, training, promotion, etc., and treats various types of employees equally.



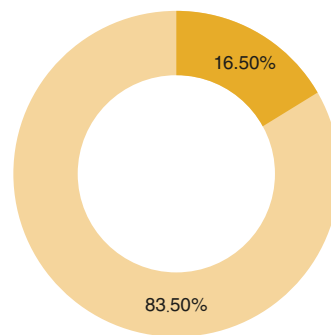
■ Proportion of Han ethnic in senior managers  
■ Proportion of minority ethnics in senior managers



■ Proportion of employees with college diplomas and below  
■ Proportion of employees with undergraduate diplomas and above



■ Proportion of local employees  
■ Proportion of non-local employees



■ Proportion of female management  
■ Proportion of male management



100%

SPC's coverage rate of five social insurances and one housing fund reached 100%. Besides, SPC provided incentive annuities and supplementary public reserve funds to employees.

100%

SPC's employees' trade union participation rate is 100%. The company improved the organization carriers such as the trade union, the workers 'congress and other daily equal consultation meetings to promote employees' participation in corporate management.

100%

The collective contract signing rate of SPC's employees is 100%.



Strengthen the construction of "online trade union"  
Promote communication between management and employees



Trade Union's activities of "Building a Home"  
Promote the construction of "Employees' small room"



Assessment of employees satisfaction  
Improve the trade union's accurate service standard



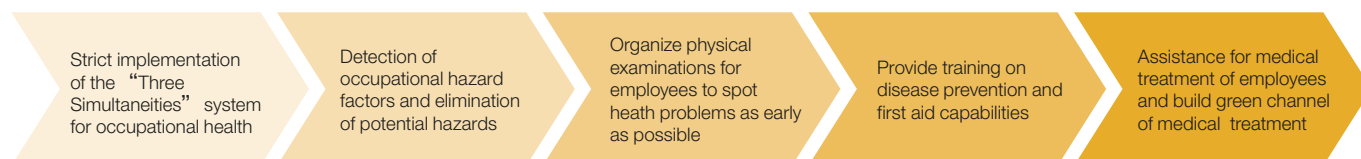
Supplementary medical insurance and employees' mutual-aid fund provide multiple protections to employees



# OCCUPATIONAL HEALTH AND SAFETY

SPC abides by the "Work Safety Law of the People's Republic of China" 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.

SPC promulgated the SPC Great Health Implementation Plan, revised SPC's Detailed Rules for Occupational Health Management, and established the working mechanism of great health management.



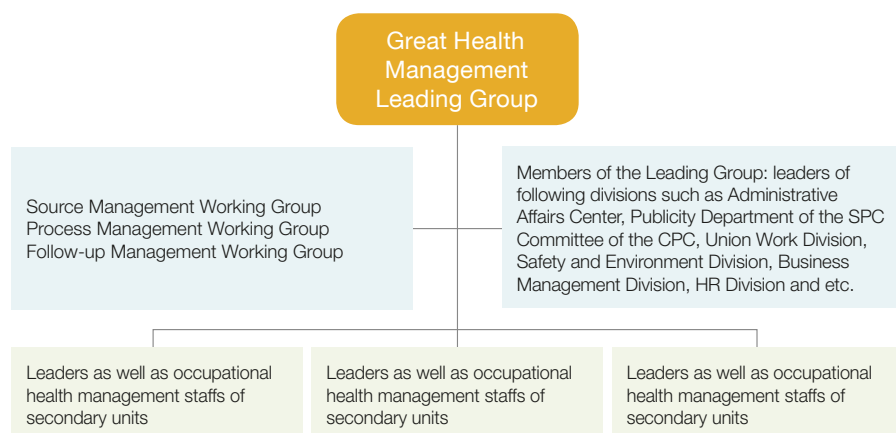
The company carries out a variety of cultural and sports activities and EAP activities to help employees to relax their bodies and minds.

## Exploring flexible business management in EAP activity

In 2019, SPC comprehensively and deeply carried out EAP activity, organically combined EAP with the joint service mechanism, publication of ideological and political work, and visit of grassroots and 10,000 families, provided 7 \* 24 hours of psychological counseling services for employees and their families, and provided grassroots employees, shift/team leaders and middle-level/senior management staffs with training on interpersonal communication, stress management, emotional management, team building and leadership skills. 1,314 people participated in 46 experience activities throughout the year, 31 people made appointments for on-site consultation, 142 people proactively used the psychological counseling hotline service, and 4,853 people proactively accepted the mental health survey.



## SPC's Great Health Management System


**98.90%**

Rate of physical examinations for employees

**100%**

Compliance rate of occupational hazard factors detection

**100%**

PPE distribution rate

## BOOST EMPLOYEES' CAREER DEVELOPMENT

Following the Vocational Education Law of the People's Republic of China, SPC implemented talents-based corporate development project, built favorable situations that everyone endeavors to be a talented person, everyone is able to be a talented person and everyone can fully demonstrate his/her abilities of a talented person.

SPC has established a diverse, fair and just talent promotion channel and a flexible talent horizontal fluidity channel



**10.05%**

In 2019, 43,466 employees received training, with a year-on-year increase of 10.05%

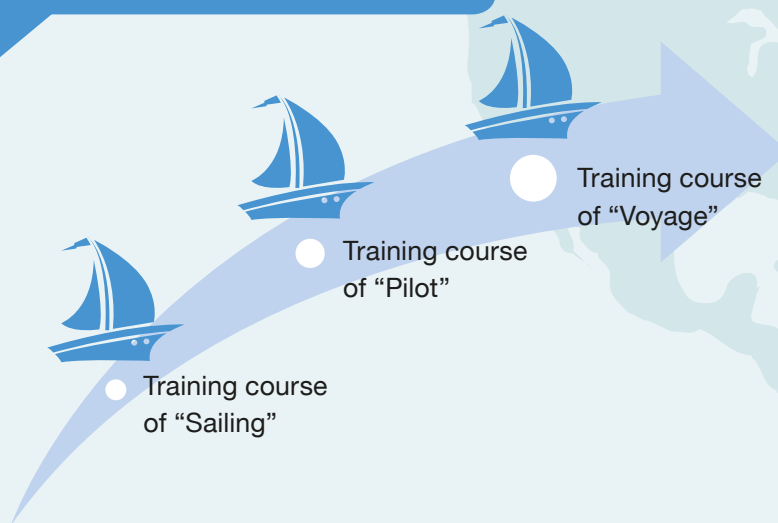
**11.28%**

In 2019, employee training investment was RMB 38.095 million, a year-on-year increase of 11.28%

**53hours**

In 2019, employees received 53 hours of training in average.

Provided three series training of "Voyager Program" to cultivate high quality management talents



Talent training focuses on practical skills and youth cultivation

Focus on carrier construction	Focus on practical operations	Focus on informatization	Focus on "one post with multiple skills"	Focus on youth cultivation
Five training bases Model worker studio Technician Studio Staff Innovation Studio	Considered production units as the classrooms, developed an intelligent training exercise bank, built a simulation learning room, carried out competitions and drill activities; "Mentors coach apprentices"	Established a "learning column" on the Internet, and promoted simultaneous operation of online and offline model worker (technician) studios	Guiding Opinions on Training of "One Post with Multiple Skills" for Skill Operators of SPC	Built youth center, held youth forum, established training course for Youth Management Staff, youth employees' training camp of positive energy, "Youth Innovation and Efficiency Improvement Program", youth post crackjack, etc.



# FULFILL RESPONSIBILITIES AND SERVE THE SOCIETY



SPC actively communicates with the surrounding residents, integrates and co-develops with the surrounding communities; fulfills its responsibility against corruption, promotes cultural and ideological progress, and is keen on social and public welfare undertakings.

- 01 Facilitate Community Development
- 02 Disclose Environmental Information
- 03 Fulfill Responsibility of Anti-corruption
- 04 Make Contribution to Social and Public Welfare Undertakings

## FACILITATE COMMUNITY DEVELOPMENT

The Company abided by the "Enterprise Income Tax Law of the People's Republic of China" and "Provisional Regulations of the People's Republic of China on Value Added Tax", paid taxes honestly, 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.

### Establish three-tier joint development communication mechanism between enterprise and local government

#### Consultation between senior managements

- Joint Development Committee of SPC, Jinshan District, Shanghai Municipality, Pinghu of Zhejiang Province
- Symposium on Joint Development of Jinshan District, SPC and Shanghai Chemical Industry Park

#### Meet on a regular basis

- Special Coordination Meeting for joint development with related authorities of Jinshan District, Shanghai Municipality and Pinghu City, Zhejiang Province
- Relevant professional conferences with Jinshan District, Shanghai and Pinghu City, Zhejiang Province

#### Normalize work communication

- The daily communication mechanism between SPC's general manager's office and the government offices of Jinshan District, Shanghai Municipality and Pinghu City, Zhejiang Province
- Cooperation mechanism with operation authorities for municipal facilities of Jinshan District and enterprises

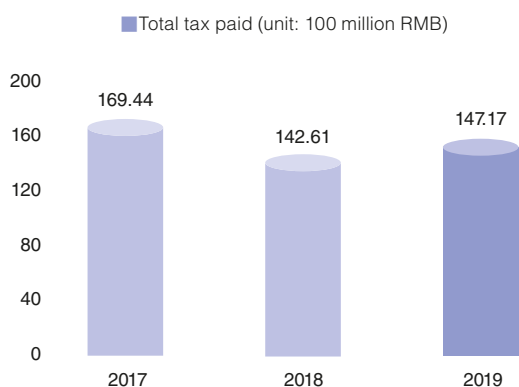
**RMB 3.215 million**

In 2019, invested 3.215 million RMB to support infrastructure construction, community public facilities, education development, and health development in surrounding areas.

**4811 persons**

In 2019, accepted 4,811 interns from companies and universities.

### HONEST TAX PAYMENT ACCORDING TO LAW



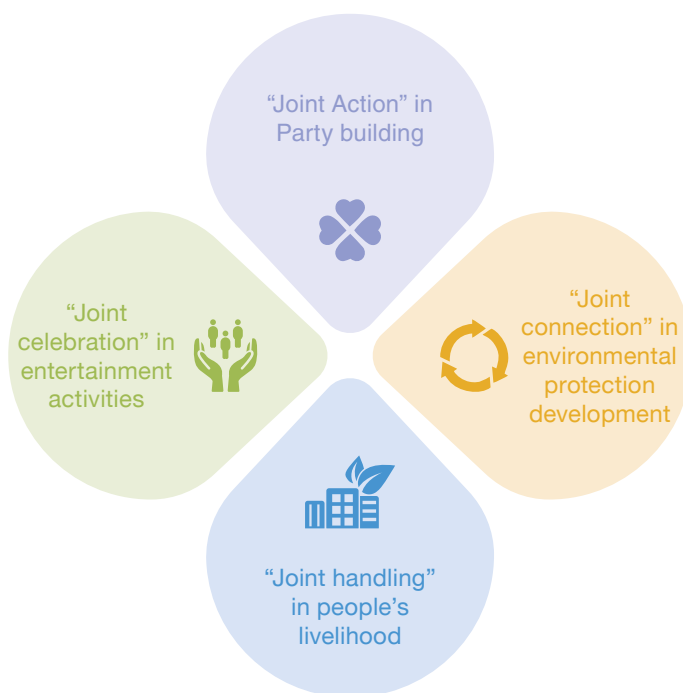
### UNDERTOOK THE MISSION TO ASSURE SUPPLY

SPC participated in Shanghai municipal campaign of "Double One Hundred" (one hundred enterprises help one hundred villages) village-enterprise pairing for targeted poverty alleviation in 2019, donating RMB 400,000 to the poverty stricken areas in Guizhou Province for the construction of honey production upgrading projects in the area.

### EDUCATIONAL & CULTURAL COOPERATION WITH SURROUNDING AREAS

SPC provided training courses and internship opportunities to various related schools of different levels and partner enterprises in Shanghai and even in all China.

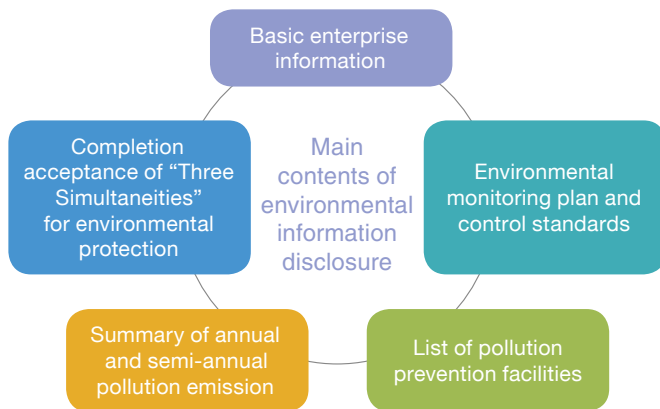
### Normalization of "four joints" mechanism for cooperation between enterprise and local government





## DISCLOSE ENVIRONMENTAL INFORMATION

SPC promulgated “SPC Regulations on Disclosure Management of Safety and Environmental Protection” to disclose environmental information to the public and employees in accordance with the “Environmental Protection Law” of the People’s Republic of China.



Communicate with surrounding residents by adopting diversified methods to eliminate misunderstandings about environmental issues in the chemical industry

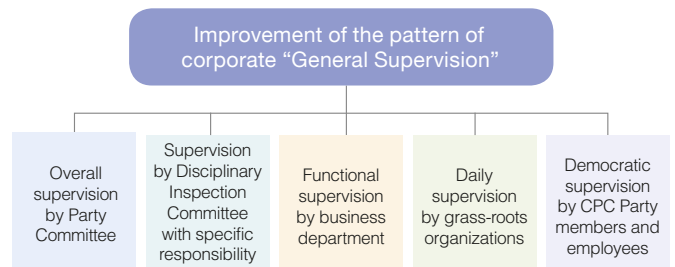
Bring in	Go out
Public Open Day program	Stepped onto the conference forum, entered the community, carried out popularization of science about petrochemicals, and publicized the achievements of SPC's green development
Retained public environmental supervisor	Made use of the opportunities of joint development between enterprise and local government, voluntary service, and etc. to strengthen communication with surrounding residents and eliminate misunderstandings about petrochemicals

Division of Water Service and Environmental Protection visited communities to communicate with pupils.



## FULFILL RESPONSIBILITY OF ANTI-CORRUPTION

Fulfilling the obligations of the members of Global Compact of the United Nations and abiding by applicable provisions of the Corporation Law of the People’s Republic of China as well as Regulations of the Communist Party of China on Disciplinary Punishment, in-depth implementation of the general requirements of “Prioritized Supervision”, SPC completely fulfills the responsibility of anti-corruption.



**100%**

SPC has formed a relatively sound anti-corruption system. We attached importance to employees' anti-corruption education in the enterprise, in the family and in the supply chain, and the coverage of anti-corruption education reached 100%

Three-level responsibility system	Anti-corruption rule system	High-risk links prevention and control system
“Dual responsibilities for one post” for members of the corporate leading group + the supervision responsibility for secretary of the discipline inspection commission of level-2 organizations + Consolidate the primary responsibility and supervision responsibility of the Party branch secretary	“Regulations on Implementation of Responsibility for Construction of Party Conduct and Clean & Honest Administration at SPC” “Provisions for SPC Leaders' Clean Conduct”	Implementation of the mechanism for prevention and control of integrity risks + “loose-leaf binder” for grassroots management staff's integrity Open on-line inspection of corporate business

## MAKE CONTRIBUTION TO SOCIAL AND PUBLIC WELFARE UNDERTAKINGS

SPC attaches great importance to raise cultural-ethical standard, cultivates positive values such as caring culture and enthusiasm of public welfare among employees, and is committed to promoting voluntary community services and donating hematopoietic stem cells.

SPC cares for the residents of the community and regularly expresses regards to the aged and other groups



### Consecutive **7** sessions

SPC was granted with the title of "Shanghai Model Unit of Spiritual Civilization" for consecutively 7 sessions.

### RMB **1.315** million

SPC spent RMB 1.315 million to sponsor the community public benefit programs in 2019.

### More than **4200** persons

More than 4,200 persons joined the "Babysbreath Volunteers" service team.

### More than **1700** persons

More than 1,700 employees of SPC joined China Marrow Donor Program.

With more than 20 years of efforts, SPC has boosted the brand of the "Babysbreath Volunteers" service.





# OUTLOOK OF 2020

2020 is the final year of SPC's "13th Five-Year" development plan, and also the year for overall arrangement of the "14th Five-Year" development plan in advance.

In 2020, the changes in the global situation will still be profound and complex, and trade frictions may continue. The petrochemical and chemical industries of China are also at an important stage of transformation and upgrading, and the era of turbulent situation in refining industry will come soon. In this critical historical period, shouldering the mission entrusted by the Party and the country, considering deepening reform and opening up as the momentum, innovation-driven development as the sources, building a "domestically leading and world class" energy, chemical and new material enterprise 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" initiatives and integration of Yangtze River Delta region, thus contributing to state advancement, national rejuvenation and local development with the petrochemical strength.

## BUILD ENTERPRISE WITH MORE COMPETIVENESS

We will thoroughly implement the new development concept, deepen the supply-side structural reform, actively promote the company's structural adjustment, boost transformation, improve benefit, increase investment in science and technology, focus on research & development and layout, stimulate innovation vitality, accelerate the construction of smart plant, and promote the company's shift from elements and input-driven to innovation-driven; center on the targets of "increasing gasoline and jet fuel, reducing diesel and tar, maintaining chemical lube oil, and expanding bunker oil", strengthen promotion of industrial restructuring, explore the scientific path of "shifting oil to chemical industry and chemical industry to high-end", promote upgrading of the enterprise industrial chain, innovation chain and value chain, and achieve intensive, clean, low-carbon, safe and sustainable development.

## BUILD ENTERPRISE OF GREENER DEVELOPMENT

We will practice green and low-carbon development, proactively implement the Implementation Plan for Refining and Chemical Green Enterprise Actions, continue to improve the HSSE system, focus on overall inspection of potential safety hazards, implementation of environmental responsibility, environmental monitoring and supervision. We will deepen energy conservation and emissions reduction, innovate green technologies, produce green products, enhance harmless treatment of wastes, recycling of resources and biodiversity protection, mitigate negative environmental impacts of production and operation, maximize resource conservation, environmental friendliness, green and low-carbon development, promote harmonious coexistence between human and the nature, and create a new advantage of green, low-carbon and recycling development for SPC.

## BUILD ENTERPRISE OF FURTHER PEOPLE FOREMOST

We will continue to improve the modern enterprise system and social responsibility performance evaluation system, improve the social governance and green supply chain management, and create value with customers. Adhering to the human-centered development concept, we will improve the employees' overall quality, and build a high-quality talent team with reasonable structure for common development of employees and the enterprise. We will practically safeguard the interests of employees, fulfill corporate citizenship responsibilities, care about the community development, benefit employees with the achievements of reform and development in a fairer manner, strive to improve the sense of gain, happiness and safety of employees and community residents. We will further strengthen communication and coordination with local governments, promote the implementation of cooperation agreements and projects, and support and drive local economic and social development.



# WRITTEN COMMENTS ON ASSESSMENT OF CORPORATE SOCIAL RESPONSIBILITY REPORT

No. K00398

Title of report	2019 Annual Corporate Social Responsibility Report
Company name	Sinopec Shanghai Petrochemical Company Limited
Business profile	<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. As one of the largest integrated refining and chemical enterprises in China, the Company set the development goal of establishing "a domestically leading and world-class energy, chemical and new material company", adhered to the mission of "providing energy for better living", actively created a green chemical enterprise, accelerated the layout of advanced energy and materials, and fostered new kinetic energy for sustainable development. We achieved operation revenue of 100.346 billion RMB and totally paid tax revenue of 14.717 billion RMB in 2019, ranked 20th in the Shanghai Top 100 Enterprises List, and 51st in the Chemical Weekly Global Three Billion Dollars Chemical Enterprise Club Ranking. The Company established the Carbon Fiber Products Division and expanded the new applications of carbon fiber in marine engineering, civil aviation and other fields. The Company's carbon fiber products have been able to replace imports. The Company defined the direction of strategic transformation for polyester, acrylic fiber, polyolefin, fine chemical and other major business areas to provide customers with differentiated value and solutions. The Company completed 65 patent applications throughout the year and obtained 26 patent licensing, thusly expanding the new space for substitution of high-end chemical new materials. The Company has had a total of 8,878 staffs by the end of 2019.</p> <p>Company Address: 48 Jinyi Road, Jinshan District, Shanghai 200540, P.R. China Tel.:86-21-57941941;Fax:86-21-57940050; Email box:spc@spc.com.cn</p>
Report Issue	Twelfth release
Assessment basis	Shanghai municipal group standard Guidelines for Corporate Social Responsibility (T31/01001-G001-2014)
Assessment method	<p>Assessment was conducted in writing for 2019 Annual Corporate Social Responsibility Report (called "the Report" for short) of Sinopec Shanghai Petrochemical Co., Ltd. in accordance with the requirements of Guidelines for Corporate Social Responsibility (T31/01001-G001-2014).</p> <p>The assessment process includes confirmation of the source and reliability of information disclosed by the Report with help of the enterprise official website and the third party's data concerned.</p>
Assessment issues	
Structural integrity	<p>With standardized structure and complete contents, the Company's report covered the basic contents of the Company's performance of its economic, social and environment responsibilities, and was prepared by making reference to the Guidelines for Environment, Society and Management Report issued by the Stock Exchange of Hong Kong Limited, the Guidelines for Corporate Social Responsibility (SEO-CSR1.0) issued by Shanghai Federation of Economic Organization, ISO26000: Guidelines for Social Responsibility (2010) issued by International Standardization Organization, 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. It contained and covered the main items of key performance indicators required by T31/01001-G001-2014.</p>



## Substantial contents

Characteristics of the Report: With reference to domestic & international and industry requirements, the Company prepared the social responsibility report with industry characteristics, which covered the efforts and achievements of Sinopec Shanghai Petrochemical Co., Ltd. made in various fields such as economy, environment and society in 2019 for sustainable development.

Centering on the eight core topics proposed by the Guidelines, the Report disclosed the Company's practice and performance in fulfillment of social responsibility in 2019.

In terms of scientific development: It defined the core values of the Company: people, responsibility, integrity, precision, innovation, and shared values; and vision planning: to establish a world-class energy and chemical company; create a future of sustainable development and be a responsible enterprise with good faith abiding by social morality with the undertaking spirit of "I must try my best to score achievements, but the achievements are not necessarily attributable to me", and the corporate mission of "providing energy for better living". Guided by President Xi Jinping's socialist ideology with Chinese characteristics for the new era, fully implementing the spirit of the 19th CPC National Congress and targeting at building a "domestically leading and world-class" company, the Company is committed to becoming an excellent energy, chemical and new material enterprise featured with "prominent major business, superior assets, reasonable structure, healthy finance, advanced technology, green low carbon, distinctive culture and standardized governance". The Company achieved operation revenue of 100.346 billion RMB, total profit of 2.654 billion RMB and totally paid tax revenue of 14.717 billion RMB throughout the year. Strictly abiding by the Corporation Law and the Securities Law, the Company established the social responsibility management system from six aspects such as the responsibility strategy, responsibility governance, responsibility capability, responsibility incorporation, responsibility performance and responsibility communication. The Company actively promoted the construction of smart plant in all aspects such as production management, safety and environmental protection, equipment management, energy management, supply chain management, auxiliary decision-making, and material management. The Company's Experience in Applying Information Technology to Improve Quality Management Level won the quality benchmarking for application direction of "Internet +" awarded by China Petroleum and Chemical Industry Federation in 2019.

In terms of fair operations: the coverage rate of anti-commercial bribery training reached 100%, and there was no violation of competition laws or intellectual property rights; The Company strengthened standardization management, drafted two industrial standards and applied for the drafting right of two industrial standards. The Company had 65 invention patent applications and has improved a lot in the drafting of patent invention standards in comparison with previous years. The Company has formed a relatively complete anti-corruption system, attaching importance to employees' anti-corruption education + serious investigation and handling of cases in accordance with laws and regulations + strengthening daily supervision, and the coverage of anti-corruption education reached 100%.

In terms of environmental saving: The Company actively carried out activities such as clean production, pollution control, creation of green enterprises, and environmental cooperation to move forward the target of creating green enterprises, and was selected as "2019 Sinopec Green Enterprise". The ratio of suppliers' obtaining ISO14000 environmental management system certification reached 61.83%, total investment in environmental protection was 658.83 million RMB, the frequency of major leakage of chemicals was zero; The discharge of various items met the emission standard. The Company strengthened pollution treatment: the Company modified the sewage treatment plant in waste water treatment and is the first company in Sinopec system that adopts biological fluidized bed technology to treat PTA degradation-resistant wastewater. Regarding waste gas treatment, the Company adopted technical revamping and upgrading before the event, centralized collection and treatment during the event, and control of emission results after the event. As a result, the exhaust gas emission reached 100% on-spec. discharge. In terms of improvement of resource utilization rate: fresh water consumption (10 K tons) 5758, water consumption per unit of output value (ton/10 K RMB) 4.91, industrial water recycling rate (%) 97.72%, comprehensive recovery and utilization of sludge (10 K tons) 1.91; In 2019, the water recycling capacity of the sewage recycling unit increased to 720 m<sup>3</sup>/h, and the sewage recycling rate increased to 44.73%. The Company's waste gas treatment technology won the silver prize in 2019 Shanghai Industry Youth Innovation Contest. The Company reduced ethylene tar consumption through change of oil to gas, reduced carbon emission through replacement with natural gas, etc., and reduced energy consumption through management of energy saving, optimization of energy performance parameters, and energy-saving technological revamping projects. In 2019, the Company's energy consumption per unit output value was 0.745 tons/10,000 RMB, a year-on-year decrease of 1.97%.

In terms of work safety: The Company fully implemented the entity responsibility of safety management. The Company's HSSE management system was released on October 30, 2019. Six leadership teams, 17 offices, and 22 secondary organizations signed HSE responsibility letters. The on-post signing rate reached 100%. The Company Carried out on-site supervision and random inspections, contractor inspections and performance assessments, revised and refined the review of major operational reports, and strengthened on-site supervision. Leaders took personal charge of the shift for 652 times, went to the grassroots units for 2,720 times, and rectified 1,072 items of potential safety hazards, organized various professional safety inspections for 9 times and conducted interview review of the contractors' project supervisors. In 2019, the Company completed overall inspections of 24 potential safety hazards, found a total of 2,383 potential hazards, with a rectification rate of 100%. The occurrence rate of occupational diseases was 0. The Company provided 370 person/times of fire trainings to the secondary organizations, the number of trainees for training of occupational safety and health was 22,861 person/times, the occurrence rates of various safety indicators were all 0; investment in work safety amounted to 234.7801 million RMB.

Substantial  
contents

In terms of customer and consumer's rights and interests: The Company abided by various laws and regulations and social morality, and gained the customers' trust and social reputation with practical actions. The Company attached importance to operation in good faith, constantly improved rules and regulations, strengthened operation control, and consolidated the foundation of integrity. The Company constantly improved the quality management mechanism, streamlined and optimized grass-roots quality management organizations, revised detailed rules of performance assessment; Strengthened quality supervision, identified product quality risks, developed control requirements and carried out internal quality control; Improved quality management capabilities, continuously improved the Company's integrated management system, promoted quality online analysis management; The spot check compliance rate of products reached 100%, customers satisfaction 97.66%; The product compliance rate reached 100% throughout the year; The Company had no quality incident and received zero product quality complaints all the year around. There were no recalls of the sold products due to quality issues.

In terms of win-win cooperation: The Company actively implemented the strategy of "going out" and "bringing in", made full use of domestic and international markets and two resources, strengthened strategic cooperation with governments, enterprises, universities, etc. to complement each other's advantages, boosted the industry transformation and upgrading, and made contribution to local economic development. While realizing its own development, the Company constantly established and improved suppliers' management system, built a responsible supply chain, and helped suppliers to achieve mutual benefit and win-win results for a better future. The Company's online procurement rate reached 100%, the rate of direct supply from manufacturers was 99.7%, purchase rate through invitation to bids 92.34%. The Company established and improved the responsibility supply chain, revised and issued "SPC Rules on Management of Exclusive Procurement" and "SPC Rules on Management of Material Procurement through Bidding", and optimized suppliers' supervision and evaluation; Revised SPC Measures for Management of Material Procurement and Supply of Resources and strictly implemented access administration; Implemented material management and control throughout the process, promulgated "SPC Rules for Management of Green Procurement of Materials", strengthened risk management, and optimized risk control and prevention measures from three aspects such as safety, operation, and integrity. The Company awarded 30 suppliers the honorary title of "2017-2018 Excellent Suppliers" in 2019.

In terms of harmonious labor relationship: By the end of 2019, there totally had been 8,878 staffs and employees at the Company. The employee quitting rate in 2019 was 0.42%, in which that of local employees was 0.19%. Employees with undergraduate diplomas accounted for 29.43%, employees with college diplomas and miscellaneous accounted for 70.57%; the labor contract conclusion rate 100%, coverage rate of collective contracts 100%, social insurance coverage rate 100%, input into relief of poverty-stricken employees amounted to 1.5 million RMB, coverage rate of physical examination 98.9%, compliance rate of occupational hazard factors detection 100%; On the basis of operating management series and skills operation series, the Company established a talent promotion channel and a flexible talent horizontal fluidity channel to create a favorable pattern of everyone striving for success. In 2019, employees received 43,466 person times of training, input in training amounted to 38.095 million RMB, and the average training hours received by general employees were 53 hours.

In terms of community participation and development: In 2019, the Company invested 3.215 million RMB to support infrastructure construction of surrounding areas, construction of community public facilities, education development, and health development, totally received 4,811 person times of internships from companies and universities; Achieved normalization of "four joints" mechanism for cooperation between enterprise and local government; The Company was granted with the title of "Shanghai Civilized Enterprise" for consecutive seven sessions., spent 1.315 million RMB to sponsor the community public benefit programs in 2019, more than 4,200 persons joined the "Babysbreath Volunteers" service team; more than 1,700 employees of SPC joined Stem Cell Bank of China; The Company held "Public Open Day" program and carried out popularization of science about petrochemicals.

Recommendations of improvement: 1. Highlight the embodiment of quantitative indicators in disclosure of relevant information, for example: investment in information construction, specific measures and promotion of patent development, investment in standardized participation, and the amount of amendments, new increments and other data should be reflected in continuous improvement of rules and regulations, which are conducive to vertical comparison; 2. Share some descriptions about social responsibility guidance provided to suppliers and distributors.

Performance comparability	The Report disclosed the performance indicators of Sinopec Shanghai Petrochemical Company Limited in terms of fulfillment of corporate social responsibility, and presents better vertical comparability. However, restricted by industrial data/information, the Report doesn't have horizontal comparability.
Credibility of content	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 the Report contents are credible.
Readability	The Report has a clear structure and plain text. In forms of characters, data, graphs, pictures and etc., the Report displays the Company's management, practice and performance of social responsibility; it is reader friendly and has strong readability.
Timeliness	The Report focuses on information disclosure of the Company's fulfillment of social responsibility in 2019, the examples of practice and performance data are mostly sourced from 2019, thusly presenting certain timeliness.
Stakeholders' participation	The Report disclosed the main social responsibility issues and stakeholders of Sinopec Shanghai Petrochemical Co., Ltd., and comprehensively described the joint participation of stakeholders in social responsibility and how to affect the stakeholders to devote themselves to the fulfillment of social responsibility.
Overall comments	The critical information, data and examples of fulfillment of social responsibility disclosed by the Report are basically in conformity with Guidelines for Corporate Social Responsibility (T31/01001-G001-2014).
Statement	The assessment comments are only specific to the 2019 information and data provided by the Report and the Company.

Auditor: Li Xiaohong

Approved by: Zhang Jinong

Assessment organization: Shanghai Quality System Audit Center

Audit date: March 22, 2020

## 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's Responsibility performance sheet				ECO-1	P5.2	P3-4
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## ABOUT THIS REPORT

### Report release cycle

Once every year.

### Twelfth report of social responsibility

Present report is the twelfth 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 2019.

### Time frame of the report

This report was developed on the basis of the data ranging from January 2019 to December 2019. However, we also adopted the data of the past three years since 2017 for certain quantity of achievements, so as to reflect the variation tendency in time.

### Definition of key topics

SPC practice of corporate social responsibility.

### Reference standards of the report

References are made to the Guidelines for Environment, Society and Governance Report issued by the Stock Exchange of Hong Kong Limited, 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 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 at giving play to the dialogue roles of the report, interpreting the value and impact brought about by SPC's fulfillment of social responsibilities and jointly discussing with stakeholders about the opportunities and challenges faced by us in the course of development and then seeking solutions. We welcome readers to propose your comments and recommendations on 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 2019 SPC Report on Corporate Social Responsibility. We attach great importance to and expect your feedback 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 telephone:

email box:

### 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



## Sinopec Shanghai Petrochemical Company Limited

Address: 48 Jinyi Road, Jinshan District, Shanghai, PRC

Tel: 86-21-57941941

Fax: 86-21-57940050

Website: [www.spc.com.cn](http://www.spc.com.cn)

E-Mail: [spc@spc.com.cn](mailto:spc@spc.com.cn)

Postal Code: 200540