

TO PROVIDE ENERGY FOR BETTER LIFE

# **CONTENT**

# TO BUILD A WORLD LEADING ENERGY AND CHEMICAL COMPANY VALUE ORIENTATION

GREEN AND LOW-CARBON

> OPENING-UP AND COOPERATION

RESOURCES COORDINATION

INNOVATION DRIVING

EOPLE PESPON	ATION WIN-W	
BEILLY	INTEGRITY METICULOUSNESS INNOVATION WIN-W	
STRINGENT		

•	ABOUT SINOPEC GROUP	O.
	PRESIDENT'S REMARKS	04
	ORGANIZATIONAL STRUCTURE	0
	FINANCIAL STATEMENT	08
	INVESTMENT OVERVIEW	1
	DOMESTIC OPERATIONS	1:
	Oil & Gas Exploration and Production	1
	Oil Refining Production and Operation	1
	Chemicals Production and Operation	1
	Products Marketing and Service	2
	Petroleum Engineering Services	2
	Refining and Petrochemical Engineering Services	2
	Key Projects Construction	2
	INTERNATIONAL OPERATIONS	3
	Overseas Oil & Gas E&P	3
	Overseas Petroleum Engineering Services	3
	Overseas Refining & Chemical Joint Venture	3
	Overseas Refining & Chemical Engineering Services	3
	International Trade	3

Where We Operate

•	TECHNOLOGICAL INNOVATION	39
	Significant Technological Development	40
	New Products Development	40
	Technological Achievements	41
	CORPORATE MANAGEMENT	45
	Reform and Management	46
	HR Management	47
	Integration of Informatization and Industrialization	48
	Corporate Governance	50
	Corporate Culture Building	51
	CPC Building	52
	SOCIAL RESPONSIBILITY	55
	Safety and Occupational Health	56
	Green & Low-Carbon	58
	Community Development	60
	Public Welfare	61
	CHRONICLE OF EVENTS	64
	GLOBAL OFFICE	66

# **ABOUT SINOPEC GROUP**

China Petrochemical Corporation (Sinopec Group) is a super-large petroleum and petrochemical enterprise group, established by the state in July 1998 on the basis of former China Petrochemical Corporation. Sinopec Group has a registered capital of 274.9 billion yuan with the board chairman of Sinopec Group serving as its legal representative. Sinopec Group exercises the investor's rights to the related state assets owned by its full subsidiaries, controlled companies and share-holding companies, including receiving returns on assets, making major decisions and appointing managers. The Group operates, manages and supervises state assets according to related laws, and shoulders the corresponding responsibility of maintaining and increasing the value of state assets.

Principal businesses of Sinopec Group include industrial investment and investment management; petroleum and natural gas exploration, production, storage and transportation (including pipeline transportation), sales and comprehensive utilization; coal production, sales, storage and transportation; oil refining; storage, transportation, wholesale and retail of oil products; production, sales, storage, transportation of petrochemical products, gas-based chemicals, coal chemical products and other chemical products; production, sales, storage and transportation of energy products such as new energy and geothermal energy; design, consulting, construction and installation of petroleum and petrochemical engineering projects; overhaul and maintenance of petroleum and petrochemical equipments; R&D, manufacturing and sales of electrical and mechanical equipments; production and sale of electricity, steam, water and industrial gas; research, development, application and consulting services of technology, e-commerce, information and alternative energy products; import & export, including import and export agency business of self-support products and commodities and technologies; foreign project contracting, bidding and purchasing, and labor export; international storage and logistics business.

Sinopec Group is the largest oil and petrochemical products suppliers and the second largest oil and gas producer in China, the largest refining company and the second largest chemical company in the world. Its total number of gas stations rank the second place in the world. We ranked the 3rd on Fortune's Global 500 List in 2017.

### BOARD MEMBERS OF SINOPEC GROUP

Dai Houliang, Ding Zhongzhi, Wang Lili, Liu Xihan, Shi Huan, Chen Ge

### SENIOR MANAGEMENT OF SINOPEC GROUP

Dai Houliang President & Deputy Party Secretary

Li Yunpeng Deputy Party Secretary & Vice President

Jiang Liangping Leading Party Group Member & Discipline

Inspection Team Leader

Jiao Fangzheng Leading Party Group Member & Vice President

Ma Yongsheng Leading Party Group Member & Vice President

Zhao Dong Leading Party Group Member & CFO

Ling Yigun Vice President

Liu Zhongyun Vice President

Li Yong Vice President

山田石化 SINOPEC

# PRESIDENT'S REMARKS



Mr Dai Houliang President

Thank you for supporting Sinopec Group and reading this annual report.

Year 2017 was a milestone for both China and our company. The 19th National Congress of CPC marked the start of securing a decisive victory in building a moderately prosperous society in all respects and a new journey for building a modern socialist country, pooling all strengths of the Chinese people together. In the past year, we also achieved satisfying results in operations and exceeded our targets thanks to concerted effort by all our staff under the leadership of the CPC with Xi Jinping as the general secretary. We were able to grow the company, improve its development quality and keep good momentum while maintaining stable operations. The company recorded a revenue of 2.40 trillion yuan, up by

21.8%, generated a profit of 58.2 billion yuan, up by 10%, and our tax contribution reached 362.3 billion yuan, up by 2.5%.

We focused on optimizing our operations. In China, we reversed the trend of declining reserve replacement ratio and increasing cost in upstream, and we produced 35.05 million tonnes of crude oil and 25.74 billion cubic meters of natural gas. Our overseas cash operating cost per barrel was lowered further while equity production reached 43.72 million tonnes of oil equivalent. Collaboration between the refining and marketing segments was enhanced to effectively address competition in the market. Our refining throughput was 240 million tonnes, and marketing volume of oil products in the home market was 178 million tonnes. We continued to benefit from chemical products slate adjustment, producing 11.61 million tonnes of ethylene and 4.63 million tonnes of PX, and hitting new highs in ethylene yield and high value-added products ratio. We also achieved the best record of chemicals marketing volume of 78.5 million tonnes, expanded markets for other refined products and natural gas, and increased high-end lubricants and export of catalysts.

We pushed ahead with transforming our growth pattern. The Fuling shale gas project was completed by reaching 10 billion cubic meters/year capacity while we made a number of new oil and gas discoveries in Xinjiang and other areas. Construction for the Zhongke integrated refining and petrochemical project was kicked off, the acquisition of Shanghai SECCO equity was completed, and the Zhongtianhechuang coal chemical project was put into commercial operation. The non-fuel business recorded significant growth, and the e-commerce platform EPEC's partnership with BRICS was listed among the eight key deliverables by BRICS in 2017. Chememall and other trading platform grew fast while the geothermal business was further incorporated into the planning of Xiongan New District. We also saw steady progress in finance and capital operation. We were actively engaged with the Belt and Road Initiative, won two offshore exploration blocks in Brazil, increased the weight of overseas revenue in engineering services for both upstream and downstream, and further grew international trade. Our achievements in R&D for key technologies were also remarkable with three first prizes of national science and technology advancement, and two second prizes of national science and technology invention, keeping a leading position in terms of licenses among central SOEs.

We went on with the programme of deepening reform, meeting the annual target of consolidating subsidiaries operating in extreme difficulties and reducing enterprises running losses by 15.9 percentage points. Streamlining also went well with 116 legal entities cut. Agreements signed for transfer of functions of supplying heat, water, electricity and steam and property management accounted 70% of total targets. Sinopec Oilfield Service Corporation further improved its capital structure by completing a private placement. The preparation for Sinopec marketing business IPO progressed smoothly, and mixed ownership reform scheme for the geothermal business of Sinopec Star Petroleum Corp. took shape. We were the first among all central SOEs to set up a shared services company, improving resources sharing internally and preparing for doing businesses externally.

We strengthened governance of the Party by promoting the study of the spirit of the 19th National Congress of CPC, enhancing awareness of Party members and all employees, and putting in place stringent performance evaluation of Party construction work. The decision to incorporate Party construction into the company's Articles of Association was approved by winning 99.96% votes, in which 99.68% votes of our overseas shareholders (representing 13.2 billion shares) were in favour. We also improved our human resources work by adopting higher selection criteria to make management at the subsidiaries stronger. Discipline and correction of identified problems were emphasized, and anti-corruption and clean conduct were strengthened, nurturing a healthy environment for the company. The traditional values of being stringent, attending to details, and adopting pragmatic approach in work were upheld and encouraged.

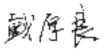
We shouldered our corporate social responsibility by pushing forward the targeted poverty alleviation work and invested 136 million yuan in 2017 to designated regions. We also continued with social welfare programmes including sponsoring the Lifeline Ex-

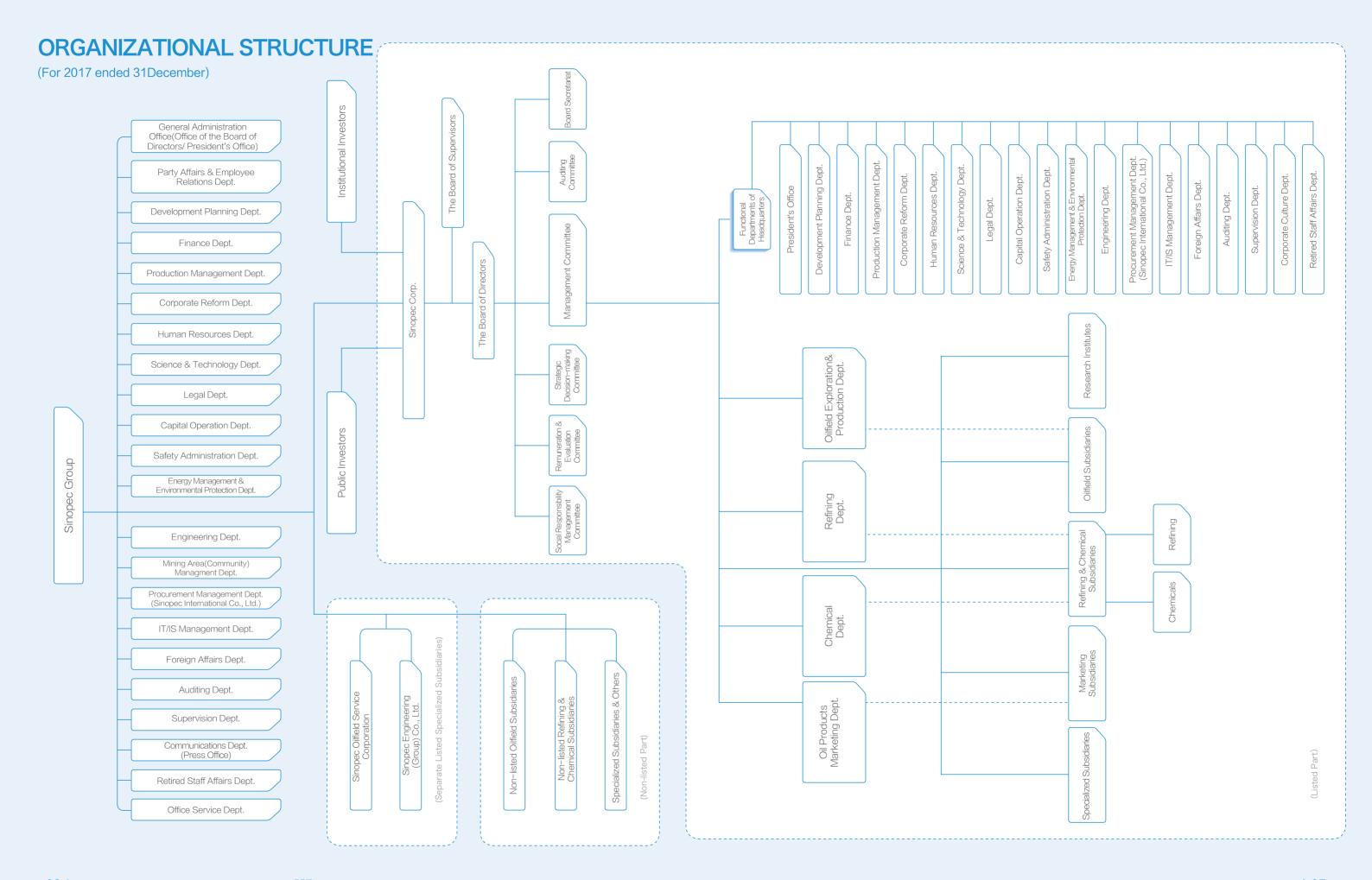
press, which had cured more than 40,000 cataract patients for free. The "station that cares" programme provided free services to tens of thousands migrant workers travelling home during the Chinese New Year, while the "Sinopec Open Day" event promoted communications and understanding between the public and the company. We made every effort in increasing gas supply to citizens while reducing supply to other users during the supply shock in winter. We also completed the quality upgrading for gasoline and diesel, played an active role in fighting pollution in "2+26" cities, and mapped out a green enterprise initiative, contributing to environmental protection

The achievements were not won easily. We credit them to the leadership of the Party, to the support from all walks of the society, to the trust from our clients and customers and to the cooperation with our partners. On behalf of the Board of Directors, I'd like to thank all of you for your kindest help and support.

Year 2018 marks the beginning of implementing the spirit of the 19th CPC National Congress and the 40th Anniversary of China's reform and opening-up. It is also a critical year in securing a decisive victory in building a moderately prosperous society in all respects. Additionally, it also marks the 35th Anniversary of our company and 20th Anniversary since our reorganization. Standing at this new starting point, we have set our vision of building a world leading energy and chemical company to answer the call by the central government, and we will achieve this goal in phases of "two 3-years and two 10-years". We firmly believe that as long as we are committed to our vision and work with concerted effort and determination, we can realize our goal. Under the CPC leadership with Xi Jinping at the core, we will carry out our strategies, focus on quality and profit, stick to sharpening our competitive edge, press ahead with reform and innovation, seizing opportunities and riding the trend, so as to make greater contribution to the country.

We have a well-designed road map ahead of us, and we are confident to embrace new achievements. We look forward to working with you together on this journey.





# FINANCIAL STATEMENT

# Balance Sheet

							RMB MILLIONS
Item	2017	2016	2015	Item	2017	2016	2015
Current assets				Current Liabilities			
Cash at bank and in hand	195,941.37	164,674.77	94,232.19	Short-term loans	145,496.76	116,268.59	140,833.16
Bills receivable	20,186.08	16,542.02	13,524.00	Bills payable	11,905.81	10,087.69	8,174.78
Trade accounts receivable	73,956.49	63,343.36	56,215.51	Trade accounts payable	247,030.48	225,600.03	179,528.14
Advance payments	12,996.71	10,785.00	8,613.41	Receipts in advance	149,295.20	126,054.32	117,818.57
Other receivables	25,226.91	27,640.55	31,320.31	Staff costs payable	10,200.19	5,386.87	2,938.19
Inventories	263,249.59	251,050.09	232,258.95	Taxes and fees payable	77,417.95	60,020.40	41,515.15
Current portion of non-current assets	79,632.86	68,961.43	65,851.81	Interest payable	2,846.72	3,117.80	2,787.58
Other current assets	124,227.52	56,967.79	49,448.42	Other creditors	78,373.32	58,461.26	68,625.21
Total current assets	795,417.54	659,965.02	551,464.58	Current portion of non-current liabilities	76,838.07	71,976.97	20,223.40
Non-current assets				Other current liabilities	43,023.75	51,113.96	74,065.09
Financial assets held-for-trading	18,666.87	23,780.40	21,569.78	Total current liabilities	842,428.25	728,087.89	656,509.28
Long-term receivable	37,031.72	36,750.34	33,240.35	Non-current liabilities			
Long-term equity investments	128,166.34	120,215.52	102,703.37	Long-term loans	37,676.58	66,306.44	76,006.24
Fixed assets	590,057.34	590,797.38	611,778.98	Debentures payable	218,537.45	216,687.70	206,007.51
Oil and gas assets	171,898.03	215,240.03	239,085.33	Long-term accounts payable	15,891.47	16,106.37	14,206.40
Construction inventory	107.40	43.37	32.17	Long-term compensation payable	2,348.52	2,418.70	2,482.19
Construction in progress	134,539.17	151,260.87	173,908.36	Contingent liabilities	40,280.62	39,619.79	33,492.30
Intangible assets	124,385.50	110,494.67	107,291.92	Deferred tax liabilities	6,704.71	8,079.05	8,757.34
Goodwill	10,818.77	8,537.35	8,455.69	Other non-current liabilities	14,264.39	9,184.93	8,067.42
Long-term deferred expenses	18,514.19	17,408.51	17,733.29	Total Non-current liabilities	335,703.75	358,402.97	349,019.39
Deferred tax assets	16,740.38	8,331.61	8,662.78	Total liabilities	1,178,132.00	1,086,490.86	1,005,528.67
Other non-current assets	210,354.52	216,566.37	182,581.09	Shareholders' equity			
Total non-current assets	1,461,280.22	1,499,426.43	1,507,043.12	paid-in capital	326,374.05	325,907.53	319,898.03
				Capital reserve	96,983.53	97,561.40	97,537.98
				Other comprehensive income	-24,995.44	-23,850.48	-38,583.83
				Special reserves	1,260.23	1,090.80	1,041.76
				Surplus reserve	209,414.82	205,373.07	204,976.95
				Provision for general risks	1,459.93	1,327.72	876.51
				Retained profits	129,984.55	132,869.39	144,490.62
				Shareholders' equity attributed to equity shareholders of the Group	740,481.67	740,279.43	730,238.03
				Minority interests	338,084.08	332,621.17	322,741.01
				Total shareholders' equity	1,078,565.76	1,072,900.59	1,052,979.03
Total assets	2,256,697.76	2,159,391.45	2,058,507.70	Total liabilities and shareholders' equity	2,256,697.76	2,159,391.45	2,058,507.70

# **INVESTMENT OVERVIEW**

### Income Statement

RM			

Tetal operating income				TAND MILLIOTA
Total operating expenses         2,358,007.16         1,934,382.26         1,997,461.86           Operating expenses         1,920,377.43         1,528,839.65         1,598,235.90           Operating taxes and surcharges         239,627.09         237,977.64         241,696.41           Selling expenses         57,832.63         51,197.87         48,615.15           Administrative expenses         81,777.81         77,905.46         75,743.69           Exploration expenses         11,120.18         11,047.45         10,456.05           Financial expenses         4,182.80         8,402.14         13,110.54           Asset impairment losses         43,089.23         19,012.04         9,604.13           Add: Changes of fair value of assets         -8.73         -209.04         728.91           Investment gains         13,093.45         16,818.97         6,207.18           Asset disposal gains         -2,221.77         -1,182.78         197.56           Other gains         5,334.94         —         —           Operating profit         58,508.95         51,447.50         56,746.13           Add: Non-operating income         3,546.35         7,604.09         10,324.12           Less: Non-operating expenditure         3,850.29         6,148.12	Item	2017	2016	2015
Operating expenses         1,920,377.43         1,528,839.65         1,598,235.90           Operating taxes and surcharges         239,627.09         237,977.64         241,696.41           Selling expenses         57,832.63         51,197.87         48,615.15           Administrative expenses         81,777.81         77,905.46         75,743.69           Exploration expenses         11,120.18         11,047.45         10,456.05           Financial expenses         4,182.80         8,402.14         13,110.54           Asset impairment losses         43,089.23         19,012.04         9,604.13           Add:Changes of fair value of assets         -8.73         -209.04         728.91           Investment gains         13,093.45         16,818.97         6,207.18           Asset disposal gains         -2,221.77         -1,182.78         197.56           Other gains         5,334.94         -         -           Operating profit         58,508.95         51,447.50         56,746.13           Add: Non-operating income         3,546.35         7,604.09         10,324.12           Less: Non-operating expenditure         3,850.29         6,148.12         4,948.51           Total profit         58,205.01         52,903.46         62,121.74 </td <td>Operating income</td> <td>2,400,318.21</td> <td>1,969,219.82</td> <td>2,047,271.91</td>	Operating income	2,400,318.21	1,969,219.82	2,047,271.91
Operating taxes and surcharges         239,627.09         237,977.64         241,696.41           Selling expenses         57,832.63         51,197.87         48,615.15           Administrative expenses         81,777.81         77,905.46         75,743.69           Exploration expenses         11,120.18         11,047.45         10,456.05           Financial expenses         4,182.80         8,402.14         13,110.54           Asset impairment losses         43,089.23         19,012.04         9,604.13           Add:Changes of fair value of assets         -8.73         -209.04         728.91           Investment gains         13,093.45         16,818.97         6,207.18           Asset disposal gains         -2,221.77         -1,182.78         197.56           Other gains         5,334.94         —         —           Operating profit         58,508.95         51,447.50         56,746.13           Add: Non-operating income         3,546.35         7,604.09         10,324.12           Less: Non-operating expenditure         3,850.29         6,148.12         4,948.51           Total profit         58,205.01         52,903.46         62,121.74           Less: income tax         19,245.04         24,704.68         18,027.51 <td>Total operating expenses</td> <td>2,358,007.16</td> <td>1,934,382.26</td> <td>1,997,461.86</td>	Total operating expenses	2,358,007.16	1,934,382.26	1,997,461.86
Selling expenses       57,832.63       51,197.87       48,615.15         Administrative expenses       81,777.81       77,905.46       75,743.69         Exploration expenses       11,120.18       11,047.45       10,456.05         Financial expenses       4,182.80       8,402.14       13,110.54         Asset impairment losses       43,089.23       19,012.04       9,604.13         Add:Changes of fair value of assets       -8.73       -209.04       728.91         Investment gains       13,093.45       16,818.97       6,207.18         Asset disposal gains       -2,221.77       -1,182.78       197.56         Other gains       5,334.94       —       —         Operating profit       58,508.95       51,447.50       56,746.13         Add: Non-operating income       3,546.35       7,604.09       10,324.12         Less: Non-operating expenditure       3,850.29       6,148.12       4,948.51         Total profit       58,205.01       52,903.46       62,121.74         Less: income tax       19,245.04       24,704.68       18,027.51         Net profit       38,959.97       28,198.78       44,094.23         Less: Minority interests       28,566.84       19,841.85       21,502.88 </td <td>Operating expenses</td> <td>1,920,377.43</td> <td>1,528,839.65</td> <td>1,598,235.90</td>	Operating expenses	1,920,377.43	1,528,839.65	1,598,235.90
Administrative expenses 81,777.81 77,905.46 75,743.69  Exploration expenses 11,120.18 11,047.45 10,456.05  Financial expenses 4,182.80 8,402.14 13,110.54  Asset impairment losses 43,089.23 19,012.04 9,604.13  Add:Changes of fair value of assets -8.73 -209.04 728.91  Investment gains 13,093.45 16,818.97 6,207.18  Asset disposal gains -2,221.77 -1,182.78 197.56  Other gains 5,334.94  Operating profit 58,508.95 51,447.50 56,746.13  Add: Non-operating income 3,546.35 7,604.09 10,324.12  Less: Non-operating expenditure 3,850.29 6,148.12 4,948.51  Total profit 58,205.01 52,903.46 62,121.74  Less: income tax 19,245.04 24,704.68 18,027.51  Net profit 38,959.97 28,198.78 44,094.23  Less: Minority interests 28,566.84 19,841.85 21,502.88	Operating taxes and surcharges	239,627.09	237,977.64	241,696.41
Exploration expenses 11,120.18 11,047.45 10,456.05 Financial expenses 4,182.80 8,402.14 13,110.54 Asset impairment losses 43,089.23 19,012.04 9,604.13 Add:Changes of fair value of assets -8.73 -209.04 728.91 Investment gains 13,093.45 16,818.97 6,207.18 Asset disposal gains -2,221.77 -1,182.78 197.56 Other gains 5,334.94 Operating profit 58,508.95 51,447.50 56,746.13 Add: Non-operating income 3,546.35 7,604.09 10,324.12 Less: Non-operating expenditure 3,850.29 6,148.12 4,948.51 Total profit 58,205.01 52,903.46 62,121.74 Less: income tax 19,245.04 24,704.68 18,027.51 Net profit 38,959.97 28,198.78 44,094.23 Less: Minority interests 28,566.84 19,841.85 21,502.88	Selling expenses	57,832.63	51,197.87	48,615.15
Financial expenses 4,182.80 8,402.14 13,110.54  Asset impairment losses 43,089.23 19,012.04 9,604.13  Add:Changes of fair value of assets -8.73 -209.04 728.91  Investment gains 13,093.45 16,818.97 6,207.18  Asset disposal gains -2,221.77 -1,182.78 197.56  Other gains 5,334.94  Operating profit 58,508.95 51,447.50 56,746.13  Add: Non-operating income 3,546.35 7,604.09 10,324.12  Less: Non-operating expenditure 3,850.29 6,148.12 4,948.51  Total profit 58,205.01 52,903.46 62,121.74  Less: income tax 19,245.04 24,704.68 18,027.51  Net profit 38,959.97 28,198.78 44,094.23  Less: Minority interests 28,566.84 19,841.85 21,502.88	Administrative expenses	81,777.81	77,905.46	75,743.69
Asset impairment losses 43,089.23 19,012.04 9,604.13  Add:Changes of fair value of assets -8.73 -209.04 728.91  Investment gains 13,093.45 16,818.97 6,207.18  Asset disposal gains -2,221.77 -1,182.78 197.56  Other gains 5,334.94  Operating profit 58,508.95 51,447.50 56,746.13  Add: Non-operating income 3,546.35 7,604.09 10,324.12  Less: Non-operating expenditure 3,850.29 6,148.12 4,948.51  Total profit 58,205.01 52,903.46 62,121.74  Less: income tax 19,245.04 24,704.68 18,027.51  Net profit 38,959.97 28,198.78 44,094.23  Less: Minority interests 28,566.84 19,841.85	Exploration expenses	11,120.18	11,047.45	10,456.05
Add: Changes of fair value of assets  -8.73 -209.04 728.91 Investment gains 13,093.45 16,818.97 6,207.18 Asset disposal gains -2,221.77 -1,182.78 Other gains 5,334.94 - Operating profit 58,508.95 51,447.50 56,746.13 Add: Non-operating income 3,546.35 7,604.09 10,324.12 Less: Non-operating expenditure 3,850.29 6,148.12 4,948.51 Total profit 58,205.01 52,903.46 62,121.74 Less: income tax 19,245.04 19,245.04 18,027.51 Net profit 18,027.51 Net profit 19,841.85  Net profit attributable to equity shareholders of	Financial expenses	4,182.80	8,402.14	13,110.54
Investment gains Asset disposal gains -2,221.77 Other gains 5,334.94 - Operating profit 58,508.95 Add: Non-operating income Less: Non-operating expenditure 3,850.29 Total profit 58,205.01 Less: income tax 19,245.04 Net profit 38,959.97 Less: Minority interests 28,566.84  Net profit attributable to equity shareholders of	Asset impairment losses	43,089.23	19,012.04	9,604.13
Asset disposal gains Other gains 5,334.94 — Operating profit 58,508.95 Add: Non-operating income 3,546.35 Less: Non-operating expenditure 3,850.29 Total profit 58,205.01 Less: income tax 19,245.04 Net profit Less: Minority interests 28,566.84  Net profit attributable to equity shareholders of	Add:Changes of fair value of assets	-8.73	-209.04	728.91
Other gains       5,334.94       —       —         Operating profit       58,508.95       51,447.50       56,746.13         Add: Non-operating income       3,546.35       7,604.09       10,324.12         Less: Non-operating expenditure       3,850.29       6,148.12       4,948.51         Total profit       58,205.01       52,903.46       62,121.74         Less: income tax       19,245.04       24,704.68       18,027.51         Net profit       38,959.97       28,198.78       44,094.23         Less: Minority interests       28,566.84       19,841.85       21,502.88	Investment gains	13,093.45	16,818.97	6,207.18
Operating profit       58,508.95       51,447.50       56,746.13         Add: Non-operating income       3,546.35       7,604.09       10,324.12         Less: Non-operating expenditure       3,850.29       6,148.12       4,948.51         Total profit       58,205.01       52,903.46       62,121.74         Less: income tax       19,245.04       24,704.68       18,027.51         Net profit       38,959.97       28,198.78       44,094.23         Less: Minority interests       28,566.84       19,841.85       21,502.88	Asset disposal gains	-2,221.77	-1,182.78	197.56
Add: Non-operating income       3,546.35       7,604.09       10,324.12         Less: Non-operating expenditure       3,850.29       6,148.12       4,948.51         Total profit       58,205.01       52,903.46       62,121.74         Less: income tax       19,245.04       24,704.68       18,027.51         Net profit       38,959.97       28,198.78       44,094.23         Less: Minority interests       28,566.84       19,841.85       21,502.88	Other gains	5,334.94	_	_
Less: Non-operating expenditure 3,850.29 6,148.12 4,948.51  Total profit 58,205.01 52,903.46 62,121.74  Less: income tax 19,245.04 24,704.68 18,027.51  Net profit 38,959.97 28,198.78 44,094.23  Less: Minority interests 28,566.84 19,841.85 21,502.88	Operating profit	58,508.95	51,447.50	56,746.13
Total profit       58,205.01       52,903.46       62,121.74         Less: income tax       19,245.04       24,704.68       18,027.51         Net profit       38,959.97       28,198.78       44,094.23         Less: Minority interests       28,566.84       19,841.85       21,502.88	Add: Non-operating income	3,546.35	7,604.09	10,324.12
Less: income tax  19,245.04  24,704.68  18,027.51  Net profit  28,198.78  44,094.23  Less: Minority interests  28,566.84  19,841.85  21,502.88	Less: Non-operating expenditure	3,850.29	6,148.12	4,948.51
Net profit  S8,959.97  Less: Minority interests  28,566.84  19,841.85  21,502.88	Total profit	58,205.01	52,903.46	62,121.74
Less: Minority interests <b>28,566.84</b> 19,841.85 21,502.88	Less: income tax	19,245.04	24,704.68	18,027.51
Net profit attributable to equity chareholders of	Net profit	38,959.97	28,198.78	44,094.23
Net profit attributable to equity shareholders of the Group 10,393.13 8,356.93 22,591.35	Less: Minority interests	28,566.84	19,841.85	21,502.88
	Net profit attributable to equity shareholders of the Group	10,393.13	8,356.93	22,591.35

Note:in accordance with requirements and rules published by the Ministry of Finance in 2017 regarding accounting standards, "asset disposal gains" and "other gains" should be added and "asset disposal gains", "operating profit", "non-operating income and "non-operating expenditure" should be adjusted accordingly.



In 2017, closely following the national development strategy, Sinopec vigorously carries out its "13th Five-year Plan" by enhancing growth quality and efficiency, accelerating adjustment of growth pattern and structure, securing energy supply, and ensuring good investment returns and project portfolio with an aim to push forward the comprehensive and sustainable growth of the company.

2017 saw a total capital investment of 122.2 billion yuan (excluding profit and loss): of which, 12.6 billion yuan was invested in overseas oil and gas exploration and production; 33.4 billion yuan was used in domestic upstream; 46.8 billion yuan was invested in refining and chemical business; 21.5 billion yuan was for oil products marketing business; 0.8 billion yuan was used in logistics and commercial storage facilities construction; 1 billion yuan was invested in oilfield service and refining and petrochemical engineering business; 6.1 billion yuan was invested in scientific and technology research and IT. We guaranteed investment for safety and environmental protection.

The upstream segment put more emphasis on investment return and persisted in stabilizing oil production and raising gas output while slashing cost. Measures were taken to press ahead with highly-efficient exploration and profit-driven development and to unswervingly boost the growth of natural gas. We fine-tuned refining and chemical facilities, feedstock mix and product slate and sped up construction of major and strategic integrated refining and chemical projects, promoting large-scale and intensive complexes. Based on market conditions, the refineries adjusted

product mix, continued to lower the diesel-to-gasoline ratio, produced more gasoline and jet fuel, and completed the upgrading of gasoline and diesel product quality as planned. Chemical subsidiaries centered on customer demand and profitability, continued to adjust feedstock, optimized the production capacity of differential products among various companies and units with a goal to produce more middle and high-end products. Ethylene production and yield as well as high-value-added synthetic materials production have all reached new high. Feedstock cost for ethylene dropped continuously. Targeting at increasing market share, the marketing segment optimized investment portfolio, further consolidated the end market advantage, promoted the growth of non-fuel business, and pressed ahead with the use of double-wall tanks for better safety and environment performance. We developed 1163 new service stations and built 700 km oil products pipeline. Engineering subsidiaries continued to strengthen investment management by carefully planning new investment and ensuring good investment returns. We increased R&D investment including scientific research infrastructure and middle and high-end equipments. We actively promoted the pilot projects for new technologies and materials as well as scientific and technological incubators. We deepened informatization and its application, advanced the integration of informatization and industrialization and boosted the integration level of information system. 2017 also witnessed the in-depth implementation of smart pipeline management system and rapid growth of new business forms such as the online chemical trading platform Chememall.com.



# DOMESTIC OPERATIONS

Oil & Gas Exploration and Production	14
Oil Refining Production and Operation	16
Chemicals Production and Operation	18
Products Marketing and Service	20
Petroleum Engineering Service	24
Refining and Petrochemical Engineering Service	26
Key Projects Construction.	28

# Oil & Gas Exploration and Production

In 2017, newly-added probable oil reserves reached 160 million tonnes and possible oil reserves 210 million tonnes. As for natural gas, newly-added probable reserves amounted to 251.1 billion  $m^3$  and possible reserves 265.6 billion  $m^3$ . Throughout the year, we produced 35.054 million tonnes of crude

oil. Natural gas production was 25.74 billion  $m^3$ , an increase of 4.148 billion  $m^3$ , up by 19.2%. Newly-built crude oil production capacity was 2 million tonnes, up by 920 thousand tonnes and newly-built natural gas production capacity was 4.12 billion  $m^3$ , up by 780 million  $m^3$ .

#### **OUTPUT OF OIL & GAS**

	2017	2016	2015	2014	2013
Crude oil (million tonnes)	35.05	35.66	41.74	43.78	43.78
Natural gas (billion m³)	25.74	21.59	20.70	20.17	18.70

### Oil & Gas Exploration

We focused on making strategic breakthrough, scaling up new reserves and developing economical reserves. Aiming at "Six Major Enhancements", we rolled out verification of traps by class and reinforced basic research and standard basic work. The designated fund for risk exploration was set up to encourage 3D seismic and risk exploration, which contributed to 3 important discoveries, 14 new discoveries and 20 commercial discoveries. Success rates for drilling prospecting wells and appraisal wells increased by 9.8 and 10.2 percentage points respectively. Finding cost for probable reserves was 3.8 yuan per tonne lower than planned.

Remarkable achievements include the following. Both of the 2 exploratory wells in Shunbei No. 5 faulted zone of Tarim Basin obtained high oil yield over 100 tonnes/day, which added another 100 million tonnes of probable reserves to Shunbei No. 1 zone and prepared a base for one million tonne/year

production; we explored new types and new areas of buried hill reservoir of Jiyang and shallow water area, of which 8 exploratory wells all generated high oil yield and added another 13.5 million tonnes of probable reserves, blazing a new path to increase scaled reserves in mature exploratory zone under the low oil price scenario; new shale gas discoveries were made in the Weirong negative tectonic zone of Sichuan Basin below 3500 meters where all 5 appraisal wells harvested high gas yield with newly-added probable reserves of 120.6 billion m³, ready to be another big scale shale gas capacity building base after Fuling; the appraisal wells deployed for the phase II of Fuling shale gas project all had high gas yield with newly-added proven reserves at 220.2 billion m³ and 2 commercially developed zones, Jiangdong and Pingqiao would be in place, due to which total proven reserves of Fuling shale gas filed reached 600.8 billion m³.

# Natural Gas Development

In shale gas, we made concrete measures to optimize and implement the capacity building plans for Jiangdong and Pingqiao for Fuling phase II and built new production capacity of 3 billion m³. The total production capacity for Fuling shale gas field has reached 10 billion m³. We strengthened precision management for Fuling phase I by optimizing development technology, providing supporting measures like cleaning pipes and reducing transmission pressure, and proceeding with well pattern infilling pilot trials and upper gas layer development appraisal. Annual production reached 6 billion m³, up by 1 billion m³.

In conventional gas, we made great efforts to construct the production capacity of Hangjinqi and Dongpo of west Sichuan. Pilot production appraisal

went well. We actively tapped the potential of gas fields in Puguang, Daniudi, Yuanba, Songnan and Yakela. We stepped up dynamic analysis and single well tailor-made management. Dewatering gas production and systematic pressure boosting were used to enhance recovery while controlling water erosion and decline rate to prolong stable production period. Newly-built production capacity for the year was 1.45 billion m³. Total conventional gas production was 19.43 billion m³ with an increase of 3.06 billion m³.

In coal bed methane, we continued with the precision dewatering gas production in the South Yanchuan coal bed methane field, producing 300 million  $m^3$ , up by 120 million  $m^3$ .

# Oil Field Development

We grasped the opportunity of the rising oil price and implemented a variety of measures to guarantee profit and keep stable production. We finetuned the production plan, intensified operation management, and enhanced the efficiency of well production and drilling.

For the new capacity, we focused on building profitable production capacity, carried out rolling exploration and reservoir assessment, and accelerated the set-up of commercial development bases. We highlighted the profit-gaining ability and cut development cost. We accentuated the integrated optimization of reservoir, process and engineering as well as the whole-process optimization of design, operation and construction. Capacity building projects in Shunbei, Jiyang and Subei progressed smoothly with new capacity standing at 920 thousand tonnes. New wells produced 1.71 million tonnes, up by 730 thousand tonnes.

For the existing capacity, we endeavored to raise the quality and efficiency of mature fields and enhanced precision reservoir characterization which covered 250 million tonnes of reserves. We applied low cost technologies and reduced energy and resources consumption during oil

production. Annual natural decline rate was 10.8% and comprehensive decline rate 6.5%, down by 2.2 and 2.5 percentage points respectively, the best record since 2011. In terms of water-flooding reservoir technology, we upgraded it in integrated pilot zone and leveled up water quality, subdivisional water injection and fine-tuned balance between injection and recovery. Natural decline rate and operating cost both dropped. For Tahe carbonate cavern type reservoir, we unleashed reservoir potential and expanded the scale to utilize water and gas flooding EOR technologies, with the natural decline rate below 16%. For heavy oil reservoir, we well managed the thermal efficiency throughout steam production, transmission and injection. We also optimized the combination of huff and puff, separate layer injection and sealing technologies. Thermal recovery is stabled at over 4.8 million tonnes/ year and oil to steam ratio over 0.55. For chemical flooding reservoirs, we had individualized adjustment for each well cluster and paid close attention to the quality of the oil-flooding agent along with the optimization of flooding plugs and parameters, producing another 1.26 million tonnes for the year. Oil flooded by each tonne of polymer was up by 1.1 tonnes.



# Oil Refining Production and Operation

Crude oil runs grew. Growth in crude oil runs was realized through increasing oil products export and meeting the diversified demands for chemical feedstock and oil products at home. In 2017, we processed in total 240 million tons of oil with an increase of 1.2%, produced 151 million tonnes of oil products with an increase of 1.0%.

Product slate continued to optimize. Production scheme was adjusted and optimized. We adopted LTAG technology and FCC catalyst for boosting gasoline production to produce more gasoline, optimized hydrocracking and jet fuel hydrotreating units to increase jet fuel production, enhanced the coordination between production and marketing to explore markets, adjusted product slate based on market conditions and profitability, and achieved remarkable results in efficiency enhancement. Gasoline production increased by 1.2% for the whole year and jet fuel production increased by 5.6%. Diesel to gasoline ratio was 1.17:1, lowering by 0.02 unit.

Quality upgrading completed smoothly. In 2017, we pushed forward the demanding quality upgrading project despite multiple frequencies in addition to multiple standards. New projects such as diesel hydrogenation in Zhenhai subsidiary, catalytic diesel conversion in Changling and Anqing subsidiaries went into smooth operation. 4 diesel hydrogenation units were added a second reactor as scheduled. We optimized production scheduling and product blending and strengthened the coordination between production and sales. Quality upgrading was finished smoothly and ahead of schedule: January 1, 2017 saw Beijing VI quality upgrading of vehicle gasoline and diesel; national VI quality upgrading of vehicle gasoline and diesel was realized in "2+26" (Beijing, Tianjin and other 26 cities in North China) cities on July 1, 2017; sulfur content of regular diesel was lowered to 50ppm and 10ppm respectively in April and September. All above ensured Sinopec's continued leadership in oil products quality in China.

### **OUTPUT OF OIL PRODUCTS**

### **MILLION TONNES**

	2017	2016	2015	2014	2013
Crude oil runs	240.12	237.32	238.29	236.98	233.70
Equity runs	231.42	228.52	228.70	226.71	224.80
Major oil products	151.76	150.22	149.39	147.32	142.05
Gasoline	57.03	56.36	53.98	51.22	45.94
Kerosene	26.88	25.47	24.35	20.75	17.43
Diesel	66.76	67.34	70.05	74.26	77.48
Lubricating oil	1.10	1.05	1.00	1.10	1.19
Fuel oil	1.54	1.57	2.29	3.59	4.24
Solvents	0.03	0.08	0.18	0.23	0.32
Petroleum wax	0.38	0.42	0.44	0.43	0.50
Petroleum asphalt	8.60	7.54	8.44	7.29	7.72
Petroleum coke	13.77	13.61	13.59	14.06	13.80
Light oil for chemical feedstock	38.97	39 10	38 97	39.42	38 23



# **Chemicals Production and Operation**

In 2017, we produced 11.61 million tonnes of ethylene and 4.625 million tonnes of PX, up by 550 thousand tonnes and 290 thousand tonnes, respectively. The proportion of new and specialty products in synthetic resin reached 63%, up by 1.6 percentage points; that of high-value products in synthetic fiber rose to 29.4%, up by 3.7 percentage points; that of high-value products in synthetic rubber was 24.7%, up by 4.2 percentage points.

Production and operation realized stable growth. Close coordination between production and marketing was made with dynamic optimization. We paid close attention to the stable operation of flagship equipments, conducted ethylene crackers contest, eliminated potential hazards and pushed forward debottlenecking. For the whole year, reliability rate of ethylene facilities reached 97.49%, up by 1.33 percentage points, and unscheduled shutdown was lowered by 2 times and 23 days.

Structural adjustment continued to evolve. In feedstock structural adjustment, targeting at maximizing input-output efficiency, we adopted dynamic optimization and ethylene yield rate for the year was 66%, marking a new high. In product slate adjustment, supported by technological innovation, we deepened the integration between production, marketing, research and application and optimized manufacturing among enterprises

and workshops based on product types and grades. The replaced import volume of three major synthetic materials reached 210 thousand tonnes. In facilities structure adjustment, we focused on benefits of the entire product chain, shifted from "shutdown to reduce loss" to "increase production and profit" by reasonably scheduling the operation and shutdown of facilities.

Good progress was made in coal chemical projects. Utilization rate of major facilities in Sinopec Great Wall Energy and Chemical Co. (Ningxia Province) increased significantly. The company accumulatively produced 1.40 million tonnes of chemicals and generated 2.95 billion kilowatt-hours of electricity, up by 45% and 23%, respectively. Its sales revenue was 3.26 billion yuan, up by 82.4%. Zhongtianhechuang Project was put on steam and went into commercial operation. For 2017, it produced 4.51 million tonnes of chemicals and 14.98 million tonnes of raw coal, and realized 3.59 billion yuan of sales revenue. Zhongan United Coal Chemical Project fully recovered construction with all of its major units for chemicals being constructed. Accumulative progress reached 58.01% of its overall schedule. Preparatory work for Guizhou Zhijin Coal-to-Olefin Project and Xinjiang Coal-to-Gas Project continued to advance.



### **OUTPUT OF CHEMICALS**

### **MILLION TONNES**

	2017	2016	2015	2014	2013
Ethylene	11.61	11.06	11.12	10.70	9.98
Equity production	9.21	8.43	8.49	8.18	7.87
Propylene	9.48	9.08	9.26	8.97	8.55
Synthetic resin	16.21	15.46	15.48	15.06	14.13
PE	7.49	7.27	7.33	7.11	6.60
PP	7.16	6.58	6.52	6.30	5.82
PS	0.63	0.59	0.58	0.65	0.67
PVC	0.20	0.23	0.23	0.22	0.31
Synthetic rubber	1.10	1.12	1.15	1.24	1.29
BR	0.36	0.36	0.39	0.42	0.44
SBR	0.32	0.36	0.37	0.46	0.47
IIR	0.01	0.01	0.01	0.03	0.04
SBS	0.25	0.27	0.27	0.27	0.29
Raw materials for synthetic fiber	6.55	6.48	6.35	5.72	6.26
PTA	2.25	2.49	2.27	2.48	2.95
Acrylonitrile	0.98	0.95	0.99	0.74	0.70
EG	2.69	2.43	2.55	1.93	2.02
CPL	0.59	0.56	0.49	0.53	0.55
Polymers for synthetic fiber	3.13	3.03	2.85	2.84	3.29
PET	2.72	2.70	2.56	2.59	2.99
PVA	0.23	0.18	0.17	0.14	0.17
Synthetic fiber	1.24	1.26	1.30	1.33	1.41
Polyester fiber	1.01	1.00	1.01	1.05	1.09
Acrylic fiber	0.21	0.23	0.27	0.26	0.29
Synthetic ammonia	1.10	1.15	0.97	0.96	1.16
Nitrogen fertilizer (100% N base)	0.18	0.18	0.16	0.31	0.69
Urea (physical volume)	_	_	_	0.09	0.92

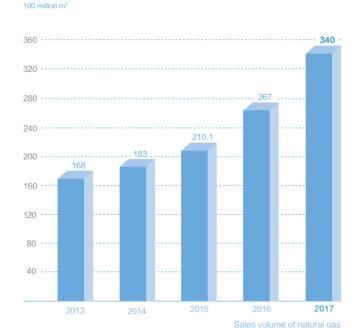
# **Products Marketing and Service**

### Natural Gas

In 2017, we sold 34 billion m<sup>3</sup> of natural gas, up by 27.9% and of which, self-produced natural gas was 25.74 billion m<sup>3</sup>.

Significant effect was shown in market expansion. In North China, we arranged resources in gas or liquid phase according to specific situation. We provided pipeline transmission services and reliable supply proposals to strengthen our traditional user base and expand new markets. In markets covered by Sichuan to East China Gas Project, we adopted region-specific targeted marketing, ensuring win-win with customers and improving profit. In South China, we optimized LNG flow to maximize profit with limited resources. We accelerated our pace of entering the end user markets by building pipelines and LNG receiving facilities for direct supply to some town gas operators and our own subsidiaries. We initiated the three-tier emergency response scheme, coordinated with upstream segment to boost production, enlarged export efforts and accumulatively increased volume for the heating period by more than 260 million m<sup>3</sup>. We ensured gas supply for civil use and spared no efforts to secure the market supply.

Pipelines ran with security and stability. We strengthened pipeline operation monitoring and analysis, conducted transmission capacity evaluation and process parameter optimization, regularly tested measurement meters and instruments, strictly controlled transmission error, meticulously prepared for operation and ensured the successful operation of pioneering projects such as the Wen 23 Gas Storage. Special contractor management program was conducted to assign responsibilities. Carbon auditing and pollution source identification were implemented to raise our ability of environmental risks evaluation, management and control.



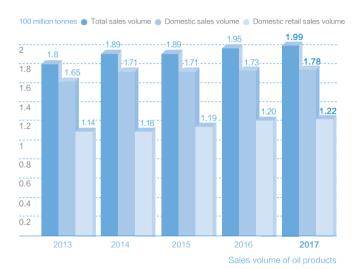
Long-term screening mechanism for geological disaster was set up to form a rolling prevention and treatment mode combining "prevention before flooding, review during the flooding and screening after the flooding". We strengthened the joint prevention system to further optimize our emergence response program and properly handled the "10  $\cdot$  11" landslide incident of Sichuan to East China Gas Pipeline.



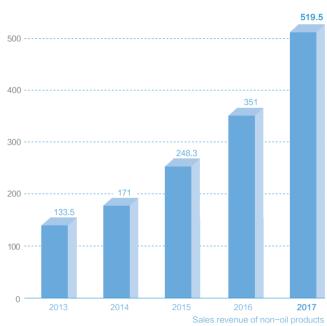
### Oil and Non-oil Products

In 2017, total sales of oil products reached 199 million tonnes, including domestic sales of 178 million tonnes, up by 2.9%. The retail volume was 122 million tonnes. With a focus on integrating fuel and non-fuel business, for the whole year, non-oil products transaction volume reached 51.95 billion yuan, up by 48%.

Oil products marketing and service. With our integrated business model, market-oriented and customer-centered approach, we carried out differentiated marketing strategies for different market segments and realized growth in both volume and profit in oil products sales. We proactively responded to market rebalancing, advanced the coordination between production and marketing, made timely feedback to market dynamics, adjusted resource allocation according to consumption scenario change, reasonably controlled resource distribution, made fair use of external







purchase, developed sound purchasing and selling strategies for maximum output of resources. We substantially improved the comprehensive services with multiple marketing tactics. In diesel marketing, we realized the dual goals of issuing more than 1 million co-branded diesel cards and selling more than 1 million tonnes of products via cards, and conducted collaborative marketing of "One Card for Nationwide Benefits". Through great efforts on developing gasoline direct sales and distribution customers, utilizing our advantages in collective purchasing, cost and quality control and brand value, and dealing with joint and independent service stations, the proportion of gasoline direct sales and distribution made a significant increase. Our logistic cost and extras were lowered dramatically through the separation of oil products physical flow and value flow and full process logistic optimization.

	2017	2016	2015	2014	2013
Total number of sinopec-branded service stations(units)	30633	30603	30560	30551	30536
Company owned and operated stations	30627	30597	30547	30538	30523
Franchised stations	6	6	13	13	13

Non-oil products marketing and service. For 2017, the growth rate of non-fuel business transaction volume hit a new high since year 2011. We pushed forward the development and marketing of self-branded products and issued new product lines such as Changbaishan Spring and cigarettes exclusively for Easy Joy convenience stores. With a focus on key products such as tail gas treatment liquid, Zhuoma Spring, Oulu tissue, Laimao liquor, we integrated further fuel and non-fuel businesses, resulting in not only the effective expansion of non-oil products sales scale, but also strong support for oil products marketing. Cross-boundary cooperation and cross marketing enabled us to effectively develop vehicle services, advertisement, insurance and in-shop services to better our comprehensive service capability and ability in value creation. Equipped with Internet-oriented approach and Big Data technology, we developed and tested CRM system and applications, initiated ahead of schedule 95388 customer service call center, formulated management scheme of membership card points tally, improved online and offline customer experiences and realized drastic increase in the number of Wechat followers, registered members and members who linked their bank cards to Wechat accounts.

Marketing network construction. We adopted flexible development

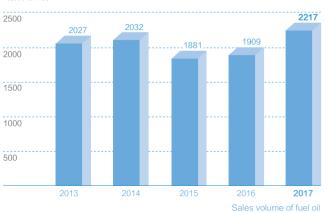
modes combining long-term ownership and asset-light strategy, and accelerated the construction of service stations network. Meanwhile, with coordinated renovation to boost volume, hazard rectification, environmental protection and new business development, we completed double wall tanks, double-layered pipelines and renovation for more than 2,000 service stations. By the end of 2017, there were over 30,600 Sinopec self-operated service stations. In storage and transportation facilities, we tapped potential of existing ones, built and optimized new ones, successfully put Hainan and Sichuan-Chonging pipelines into operation, implemented de-bottlenecking projects, and optimized capacity of gasoline and diesel tanks. Accelerated construction of tail gas treatment fluid plants and bulk refilling facilities guaranteed the satisfaction of incremental demand. In "2+26" (Beijing, Tianjin and other 26 cities in North China) cities, we strictly implemented the energy conservation and environmental protection policies, realized full coverage of installing recycle facilities in all service stations, further utilized level gauge system and achieved significant results on various fronts. We also actively explored partnership with power companies including the State Grid and China Southern Power Grid to put a response plan in advance against challenges posed by alternative energy development.

# Fuel Oil

In 2017, total sales volume of fuel oil was 22.17 million tonnes, up by  $^{16\%}$ 

Domestic market. We advanced professional management. For 2017, we realized remarkable profit from 580 thousand tonnes of internal resources, hit a historical high profit out of self-blending resources and sold 1.2 million tonnes of bunker oil, up by 11%. Total sales volume in domestic market reached 2.76 million tonnes. We provided 250 thousand tonnes of feedstock to Sinopec refineries. Our business channel expansion had a better foundation as we became a registered customer of Saudi Aramco's LPG product.

#### 10,000 tonnes





Bonded business. Resource cost was effectively controlled through "diversified sources and regular blending". With strengthened customer development and maintenance, proportion of end-user sales reached 48% and traded resource reached 500 thousand tonnes with effective increase in spread per tonne of crude. Continued logistic optimization enabled constant decrease of cost per tonne. We meticulously mitigated risks by combining physical and paper trade. We actively participated in the construction of free trade zones in coastal areas and forged partnership with local governments of Zhoushan and Dalian in terms of shipping centers and commodity trading centers. For 2017, sales volume of bonded business was 4.03 million tonnes, up by 38% with significant increase in profitability. Our market share was 33%, up by 2 percentage points.

### Other Refined Products

Sales volume of other refined products surged by 9% to a new record, maintaining our leading position in market share in China. The growth in average sales price of LPG, asphalt, petroleum coke and sulfur outperformed those of the 3 major benchmark crudes by 13 percentage points, and the profitability of our products was enhanced. We sped up the development of new products and realized the scaled production, marketing and application of Chunfeng Tahe road asphalt.

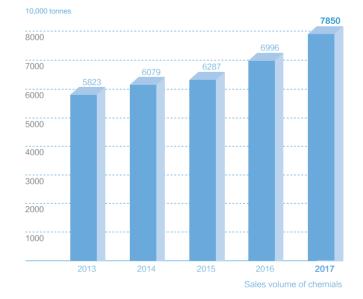
Lubricating oil business was actively aligned to serve national development strategy. We continuously pushed forward our partnership with high-end manufacturing enterprises and the army, and completed stable production of 32 products as military supplies. We completed test run of 600 thousand kilometers for bullet trains at a speed of 350 kilometers per hour and a speed of 250 kilometers per hour. Some grades of lubricants were applied on the China-standard Fuxing bullet train. We obtained first orders from multiple overseas Chinese projects and realized 35% growth of overseas sales volume among Chinese enterprises. We won a global bid from Mercedes-Benz and was authorized as its exclusive supplier of service fill lubricant in India and Indonesia. Our global market sales volume increased by 22%.

### Chemicals

In 2017, sales volume of chemicals was 78.50 million tonnes, up by 14.2%, of which trading was over 29.94 million tonnes .

Focusing on the chemical value chain. With a focus on the industrial chain development at home and abroad, we dug into segmented markets, organized front sales persons to investigate thoroughly the markets, optimized supply-end and demand-end database to lay a solid foundation for industrial chain research and market predictions.

Marked effect in MRPC. We fully tapped our advantages in Marketing, Production, Research and Consumption (MRPC) and took customer needs as the baton for production and R&D. Important breakthroughs were made



in terms of self-produced new products (specialty) marketing and replacing import of the three major synthetic materials with self-produced ones, and made due contribution to advancing the structural adjustment of domestic chemicals and enlarging our chemicals competitiveness.

Simultaneous enhancement in both marketing and service. We formulated a marketing strategy that differentiated products by product codes to have a more refined marketing approach. We established strategic partnership with major clients as an effort of conducting full-dimensional and multi-layered communication and cooperation with important clients. We developed and applied a made-to-measure information system that gave different proposals for different customers, optimized our customer demand response mechanism and enhanced our ability of providing tailormade services. We made further use of the 95388 customer support call service, comprehensively applied tools including Wechat and IT applications to advance our comprehensive service level.

Innovation in chemicals marketing channel. We adhered to the approach that "innovation is the foremost engine for growth", sped up new business development, actively explored new modes and new operations and boosted platform economy. Building upon our experience with the "Chememall" e-commerce platform, we initiated its second phase upgrading, made full use of cutting-edge information technologies, explored high-efficiency trade, convenient payment, smart logistics and intelligent services, pushed forward deep integration through the entire industrial chain, enhanced the brand impact of "Chememall" and thus accelerated our transformation from traditional marketing business to platform economy.

# **Petroleum Engineering Services**

Making major geophysical breakthroughs. We stepped up efforts in technical innovation: point-receiver high density 3D seismic exploration technology was successfully applied; the R&D of new broadband acceleration geophone was completed and put into application, fostering 3 main breakthroughs in original innovation. We extended the industrial chain on the basis of our technical advantages. We vigorously developed emerging businesses, increasing volume of oil & gas pipeline detection and maintenance and land-right confirmation rapidly, and breaking new grounds in urban underground pipeline detection, urban shallow geophysical detection, maritime surveying and deformation and sediment monitoring. We strengthened meticulous management and enhanced our project profitability with operating cash flow hitting a record high.

Improving deep and ultra-deep well drilling technologies. We undertook researches on technologies concerning safe drilling, speed and efficiency enhancement, wellbore stability and heat resistant drilling instruments

for HTHP wells. We developed key tools and facilities like PDC drill bits, torque oscillator and high temperature MWD system. We improved the safe and optimized drilling technology for complex ultra-deep wells, hence supporting the evaluation of tectonic zone in piedmont in Eastern Sichuan and the exploration discovery of Shunbei Oil and Gas Field. We refreshed the record of deepest well in Asia by Shunbei Appraisal-1 well (8,430 meters) and Appraisal-2 well (8,433 meters) in succession. Throughout 2017, there were 93 ultra-deep wells drilled and finished, with an average well depth of 6,755.81 meters, a mechanical drilling speed of 6.48 m/h and a drilling cycle of 104.34 days.

Progress in drilling technology for shale gas. We sought breakthrough and conducted R&D in technologies, such as optimized and fast drilling of deep horizontal shale gas well and those of "one-trip" accelerated drilling, highly efficient drilling bits and coiled tubing for long horizontal section wells. We developed shale gas engineering coupling technology, providing

### PETROLEUM ENGINEERING OPERATION

	2017	2016	2015	2014	2013
2Dseismic (km)	2046	1788	5143	5635	14654
3Dseismic (km²)	6383	5989	6207	8825	11533

### **DRILLING OPERATION**

	2017	2016	2015	2014	2013
Wells-drilling, number	1761	1279	2135	4618	5544
Exploration wells	442	449	472	575	695
Development wells	1319	830	1663	4043	4849
Wells-drilling, footage(km)	4754.7	3679.1	5654.7	10849.1	13539.4
Exploration wells	1185.8	1163.7	1144.9	1489.4	1874.6
Development wells	3569.0	2515.4	4509.8	9359.7	11664.8

### WELLS COMPLETION OPERATION

	2017	2016	2015	2014	2013
Wells-completion, number	1723	1194	2076	4471	5505
Exploration wells	403	382	430	537	703
Development wells	1320	812	1646	3934	4802
Wells-completion, footage(km)	4619.9	3431.5	5527.6	10364.5	13363.8
Exploration wells	1054.7	979.4	1186.4	1357.8	1878.9
Development wells	3565.2	2452.1	4341.2	9006.7	11484.9

Note: The listed data exclude the amount of work done in external and overseas markets







guarantee for Fuling shale gas capacity building and peripheral deep shale gas exploration. We drilled and finished 43 Fuling shale gas wells, with footage of 221,100 meters, average depth of 5,000.77 meters, mechanical drilling speed of 7.16 m/h, and drilling cycle of 88.24 days. Key technologies of 1,500-meter horizontal section wells kept upgrading. The horizontal section of Jiaoye 29-S2HF was completed in 6.33 days. We saw a remarkable drilling speed growth in Yongchuan and Weiyuan projects, 20% down in drilling cycle compared with initial periods.

New breakthroughs in logging technology. The "radar imaging log prototype development" filled the gap of research in this field. The SINOLOG900 network imaging well-logging system with self-owned IP rights passed filed tests and was applied. Dipole shear-wave imaging technology extended the acoustic detection range from several dozens of centimeters to 80 meters, solving the difficulty of fractures and opening identification. High temperature grand slam well-logging instrument performed the task of HTHP slim hole well-logging for Shunbei Appraisal-1 well (7,842m, 160°C). Integrated with multi-component gas analysis system and wireless sensor, the SinoWSL-1 comprehensive mud logging unit were improved to be a high-end technological instrument, breaking into the global market.

Continuous progress in special operation technology. We provided better services in horizontal segmentation fracturing, large scale acid fracturing, gas testing for sour gas, HTHP well testing, horizontal well workover, high pressure snubbing operation, and coiled tubing. Multi-well pad fracturing technology was widely applied. The maximum production of shale gas in Jiaoye 59 Platform reached 213,000 m³. We launched the first repeated fracturing shale gas well, Jiaoye 9-2HF. The FLICK slick water and LOMO gel fracturing fluid both developed by Sinopec independently were applied in Eyiye 1HF well, finishing 26 fracturing projects. Based on formation test, we got hold of a well-depth as deep as 8,418 meters and a gas production as huge as 1.77 million m³ per day. For one-trip coiled tubing, we may drill 20 bridge plugs or 32 single well drill plugs. The highest pressure of wellhead with pressure reached 80 MPa. The greatest well depth in operation stood at 6.885.4 meters.

Fresh progress in offshore engineering technology. We made significant breakthroughs in drilling and coring of gas hydrate offshore. We took 13 roundtrips of sample from 2 wells in LW3 block of the South China Sea and 100% of the tools were recovered. We completed the world's first sidetracking in 24" riser in the South China Sea. The one-trip sidetracking and polishing was completed, ranking among the best around the world. Sinopec Maoming Petrochemical Company completed the project of submarine pipeline engineering. We grasped marine engineering construction technology for a depth within 40 meters. We adopted the crucial technology for designing and construction of mid-to-deep water jacket platform, upgrading our design of marine engineering for 40-meter-deep to 100-meter-deep by leaps and bounds.

Considerable business volume from surface engineering. Thanks to our technical edges, we were awarded several key quality projects like Wen-23 gas storage project (contract valued 800 million yuan), five bid lots of Qianjiang-Shaoguan Pipeline engineering project, part of the Xinjiang-Guangdong-Zhejiang Project (contract valued 2.04 billion yuan), and Rizhao-Jingbo Pipeline EPC contracting project (contract valued 2.63 billion yuan)

Upgrading in manufacturing and services. We strengthened marketing and service systems and provided quality and efficient services to our clients. In 2017, new contracts signed grew by 80%. We prepared ourselves for the fierce competition with differentiated products and specialized services. Products like high-end drilling and production equipment, efficient drilling tools and drilling pipes were widely applied in domestic markets outside Sinopec. 7000-meter-deep electric drilling rig and drilling bit penetrated the Middle East market. We saw a 245.4% increase of new contracts signed in overseas markets. We vigorously transformed from manufacturing product to providing service. Services businesses as integrated drilling and completion tools, integrated retrofitting, maintenance and commissioning for equipment and safety detection grew with a rapid momentum. We saw an increase of 20.6% in the newly-signed service contracts.

# Refining and Petrochemical Engineering Services

In 2017, we executed 875 projects regarding design, consultation, EPC and construction in China and delivered 364 mid-term projects. We completed the engineering design, EPC contracting, construction, overhaul & improvement work of key projects for Zhongtianhechuang Energy Company, ethylene oxide project of Maoming Petrochemical Company, Tianjin LNG Terminal, refinery alkylation project in Shijiazhuang, Fuling LNG treatment plant, Shanghai Petrochemical Company and Cangzhou Refining & Chemical Company. We ensured project safety and quality during the process.



Improved engineering services. Besides providing quality services in the traditional petroleum and chemical fields for our clients, we also provided our clients with integrated solution for coal chemical business, "three wastes" (waste gas, waste water and solid waste) treatment, LNG and bio-energy. Under the principle of "fostering world leading refining and chemical businesses", we comprehensively launched specialized campaigns

like "design optimization", visits to customers and collecting views from staff working on key projects. To tackle the major technical problems concerning facility development, kickoff and operation, we mobilized resources in our company. Through such efforts, we laid a foundation for cost control, volume increase and quality safety assurance. We took gradual steps to transform from an engineering contractor into a one-stop integrated solution provider.





Progress in the "top ten" priority projects. The phased tasks for 23 "top ten" projects were carried out and projects like Hubei Chemical Fertilizer Company's coal to ethylene, Jinling Petrochemical Company's HDT for res idue in an ebullated bed reactor and 6 other projects were accomplished. Another five projects were listed in our "top ten" priorities, i.e. 200,000 tonnes/year solid acid alkylation, light olefins for heavy raw material stimulation and BTX, clean and efficient gasification of 2,000-tonne-pulverized coal, removing VOC from gas phase polypropylene and large-throughput plasma treatment for VOCs. Ethylene oxide of Maoming Petrochemical Company, Tianjin LNG Terminal and refinery alkylation in Shijiazhuang and other five projects were commissioned or reached mechanical completion. We achieved phase goals for facilitating projects as coal water slurry gasification of Zhenhai Refining and Chemical Company,

the upgraded aromatic unit of Hainan Petrochemical Company and energy efficiency improvement.

Progress in the building of technical standards. In 2017, we issued 38 various technical standards for 146 projects and 10 standardized figures. In the past three years, we have issued 1,119 technical standards of designing, operation, manufacturing and R&D, covering 474 technical standards for 23 specialized designing. The core technical standard system was established. We have set up 498 construction standards for 23 specialties, aiming to substitute previous technical standards of our subsidiaries. At present, technical standards have been basically unified and applied in Zhongan United Coal Chemical Project and Zhongke Project in the Maoming-Zhanjiang Base.

# **Key Projects Construction**

In 2017, we launched 36 key projects covering oilfield service, refining & chemical and pipeline, storage and transportation; 24 refinery facilities, 4 long-distance transmission pipelines and 6 oil & gas facilities were completed and put into use. 367 units of 14 enterprises were revamped.

The Wuhan 800,000 tonnes/year ethylene and supporting facilities project was awarded the National Quality Engineering Gold Award. Other projects were awarded the National Quality Engineering Award including Chengdao No. 3 Platform and shallow water supporting engineering project, capacity building and surface engineering of Qingdong No. 5 Block in Qiaodong Oilfield, No. 4 Gathering and Treating Station of Tahe Oilfield, and Phase II project for oil quality upgrade of Wuhan Company.

Oilfield surface engineering. Capacity building and surface engineering

of Pai 612 region and accidents investigation and handling of Gudao-Luo County-Dongying and Gudao-Yongan-Dongying oil pipelines projects were all kicked off. The SH201 drilling and maintenance integrated platform of Chengdao Oilfield capacity building engineering project was started. As for the capacity building and surface engineering in Dongsheng gas field, all 6 gas field stations were put into use.

Oil refining and chemical engineering. Jinling Huntsman Ethylene Oxide Project, Changling and Anqing RLG project, Jingmen and Jinling Company residue oil hydrogenation project, Zhenhai Refining & Chemical Company diesel hydrogenation facilities were all finished and put into operation. The remaining facilities of Zhongtianhechuang Coal Chemical Demonstration Project were put into operation and made profits. Zhongke refining

complex, Zhongan United Coal Chemical Project and the second-generation aromatic hydrocarbon project of Hainan Petrochemical Company were under construction. Gulei refining complex was inaugurated. PTA facilities of Fujian Tenglong aromatics project were commissioned, and maintenance and revampting were unfolding. The aging refining plants in Zhenhai were restructured and upgraded. EVA and other projects of Yangzi Petrochemical Company made progress.

Pipeline storage and transportation. Yizheng-Changling crude oil double pipeline project, Rizhao-Yizheng crude oil pipeline capacity increase project and the pipeline pressurization of Sichuan to East China Gas Transportation Project were put into operation. The Ningbo-Taizhou-Wenzhou Refined Oil Products Pipeline was ready for operation. Chongqing Fuling LNG factory

was set up and ready for production. Tianjin LNG terminal was prepared for commissioning. Wen-23 gas storage project was being facilitated.

Key projects of overhaul and revamping. We finished 14 major overhaul and revamping projects, including 367 major production facilities, 53,180 overhaul items and 725 revamping items, with eligibility of spot check on welding quality reaching 97% and 6.22 percentage points higher of weld bond eligibility compared with that of last year. Yuanba gas treatment plant underwent the first overhaul since its initial operation. Jiujiang Company had the largest shutdown and overhaul since its 8 million tonne/year oil upgrading project. Yangzi Petrochemical Company had the biggest shutdown and overhaul for the new refining section.





# INTERNATIONAL OPERATIONS

Overseas Oil & Gas E&P	.32
Overseas Petroleum Engineering Services	.33
Overseas Refining & Chemical Joint Venture	.34
Overseas Refining & Chemical Engineering Services	.34
International Trade	.35
Where We Operate	.36

# Overseas Oil & Gas E&P

# **Overseas Petroleum Engineering Services**



In 2017, faced with the unpredictable global environment and severe security issues, to fulfill the strategic target of "building a world-leading energy and chemical company", Sinopec leveraged our advantages of group management and industrial integration, developed overseas oil & gas E&P businesses actively and steadily.

We optimized decision making, strengthened HSSE risk control, increased cash flow, yielded new fruits in E&P, improved our profitability with present capitals, and saw a steady growth in our total businesses. Throughout the year, we made 13 discoveries in Apache project, Egypt,

and achieved progress in 3 projects and 2 breakthroughs in Canada and Australia, with a 76% successful rate of well exploration and an addition of 2P+2C reserve of 8.51 million tonnes of oil equivalent. Angola 15/06 eastern region project was put into production 2 months ahead of schedule. Our equity production of the whole year stood at 43.72 million tonnes of oil equivalent. We effectively cut costs and enhanced efficiency, as we cut 35.7% of investment. By the end of 2017, Sinopec had owned 50 oil and gas E&P projects in 26 countries.

	2017	2016	2015	2014	2013
Overseas equity crude oil (million tonnes)	34.32	34.49	36.93	34.32	32.81
Overseas equity natural gas (billion m <sup>3</sup> )	11.45	10.32	9.03	8.03	7.18

Against the backdrop of continued fluctuation of international oil price at low levels, intense competition was seen in the global oilfield service market, and mounting pressure lied in improved management. We made flexible adjustments in our strategies, raised the quality and profitability of our

projects, and strived to tackle the difficulties hindering our survival. By the end of 2017, we had executed 845 projects in over 40 countries, and overall contracts valued USD21.82 billion. In 2017, the newly signed contract value was USD2.41 billion and the completed contract value was USD2.17 billion.



# **Overseas Refining & Chemical Joint Venture**

# **International Trade**

We developed overseas refining & chemical JV investment in an active and steady manner. Some of the overseas refining & chemical projects were under smooth operation including YASREF in Saudi Arabia, the joint-stock Sibur Project, Fujairah Oil Terminal Project in UAE, Krasnoyarskiy NBR project in Russia, the Lubricants Plant in Singapore and VESTA Storage Project in Holland. We paid special efforts in boosting the acquisition of oil

refining and sales business in South Africa and Botswana and signing equity purchasing agreement, waiting for approvals issued by local governments. The preliminary work of the natural gas chemical project of Amurskaya Oblast and methanol-MTO project in Russia, and synthetic rubber project of Saudi Arabia has been advanced as planned. By the end of 2017, Sinopec had 6 refining & chemical, storage and logistics projects in 7 countries.

# **Overseas Refining & Chemical Engineering Services**

In 2017, we executed 71 overseas contracts (50 projects) of refinery engineering in 13 countries, with the total contract amount of USD10.77 billion. The value for newly signed overseas contracts reached USD1.53 billion and that for completed contracts was USD2.13 billion. Together with TECNIMONT, we were awarded the AGPP project of Amurskaya Oblast, the first refining & chemicals EPC contracting project fin Russia. We

completed the following projects including the PP EPC contracting project of IRPC Company in Thailand, sulfur and polyformaldehyde (POM) in Saudi Arabia. In 2017, 18,688 people executed overseas project on average per month, including 1,283 Sinopec employees, 7,923 domestic employees and subcontractor staff and 9,482 foreign employees and subcontractor staff. In 2017, we attained 58.2344 million safe hours accumulatively.



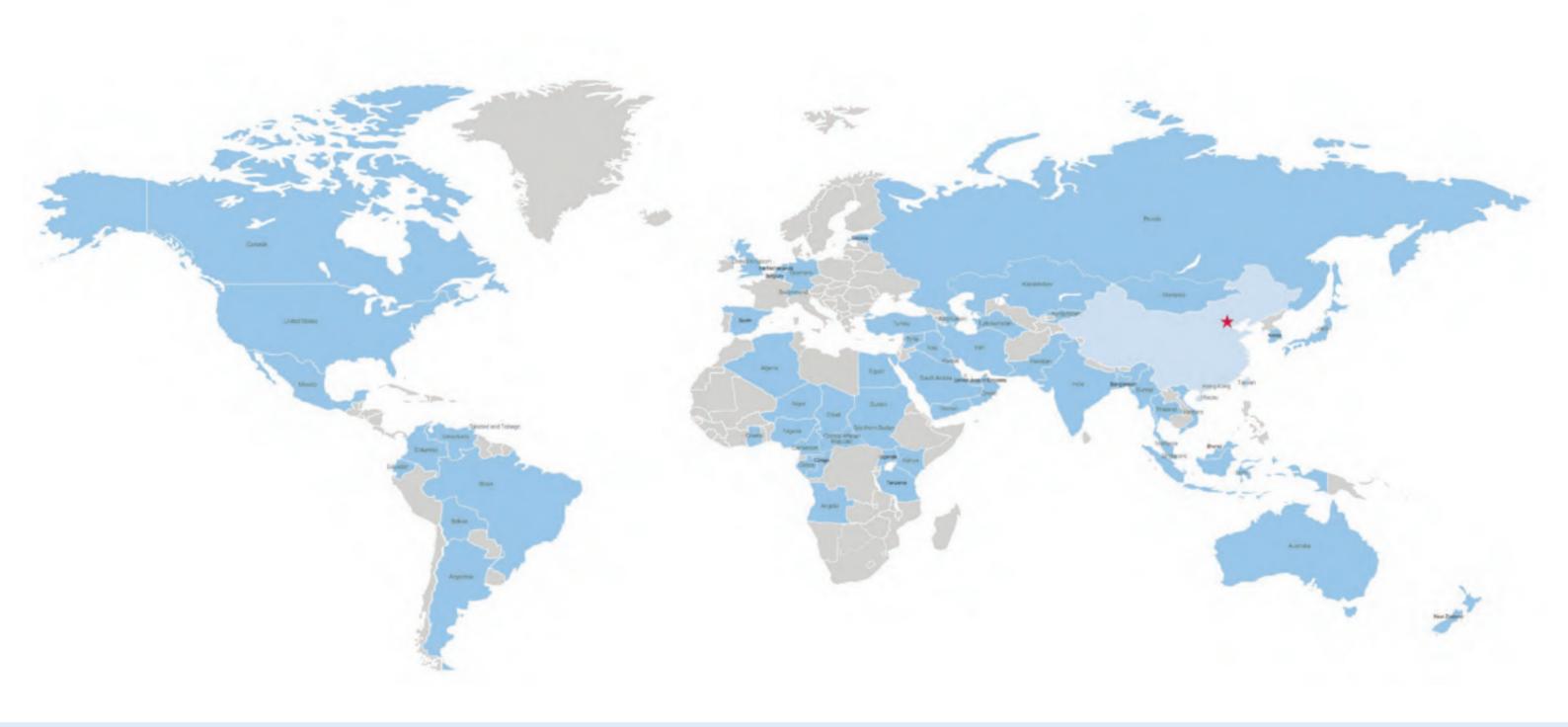


We implemented scientific crude procurement through reinforcing market analysis, grasping favorable opportunities and purchase windows. We reduced procurement cost while securing the company's operation and stable resource supplies. Total annual crude import reached 210 million tonnes, increased by 3.84 million tonnes; the third party crude trade amounted to 154 million tonnes, up by 11.68 million tonnes. Taking into consideration of domestic oil products market condition and leveraging the advantages of domestic and international resources and markets, we also increased export of oil products by 820 thousand tonnes to 20 million tonnes in 2017.

In 2017, LNG import reached 5.61 million tonnes, equivalent to 7.9 billion  $m^3$ , up by 3.2 billion  $m^3$  or 68%.

We comprehensively strengthened risk control, gave full play to overseas subsidiaries and further improved the capacity to secure supply and to export products. Due to the global economic recovery, improvement of world economic environment and optimization of China's economic structure, the realized annual international trade volume for petrochemical products, equipment and materials reached USD2.72 billion, up by 77.68%. Realized coal import and third country trade was USD398 million. We enhanced the development of overseas end market and end user for chemical products, leveraged the advantage of the integrated domestic and foreign trade, and promoted international trade with concrete steps. The annual total import, export and third party trade volume amounted to 11.3 million tonnes, up by 24%. Our catalyst business continued to expand its influence in overseas with more variety and sales volume. Annual export of catalysts grew by 4.2%. With more efforts in overseas platform construction, global operation capacity of fuel oil business has been further enhanced. The realized annual overseas business volume was 14.67 million tonnes, grew by 26.8%.

# Where We Operate



	AFRICA	
1	Algeria	
2	Angola	
3	Cameroon	
4	Central African	
5	Chad	
6	Congo	
7	Egypt	
8	Gabon	
9	Ghana	

10 Kenya 12 Nigeria 14 Southern Sudan 15 Tanzania

16 Uganda 17 Azerbaijan

18 Belgium 19 Estonia 20 Germany 21 Kazakhstan

24

25

27 Turkey

22 Kyrgyzstan 30 Iran 23 the Netherlands 31 Iraq Russia 32 Kuwait 33 Oman 26 Switzerland

29 United Kingdom MIDDLE EAST 34 Saudi Arabia

28 Turkmenistan

35 Syria

36 United Arab of Emirates 37 Yemen ASIA-PACIFIC 38 Australia 39 Bangladesh 40 Brunei 41 Burma

43 India

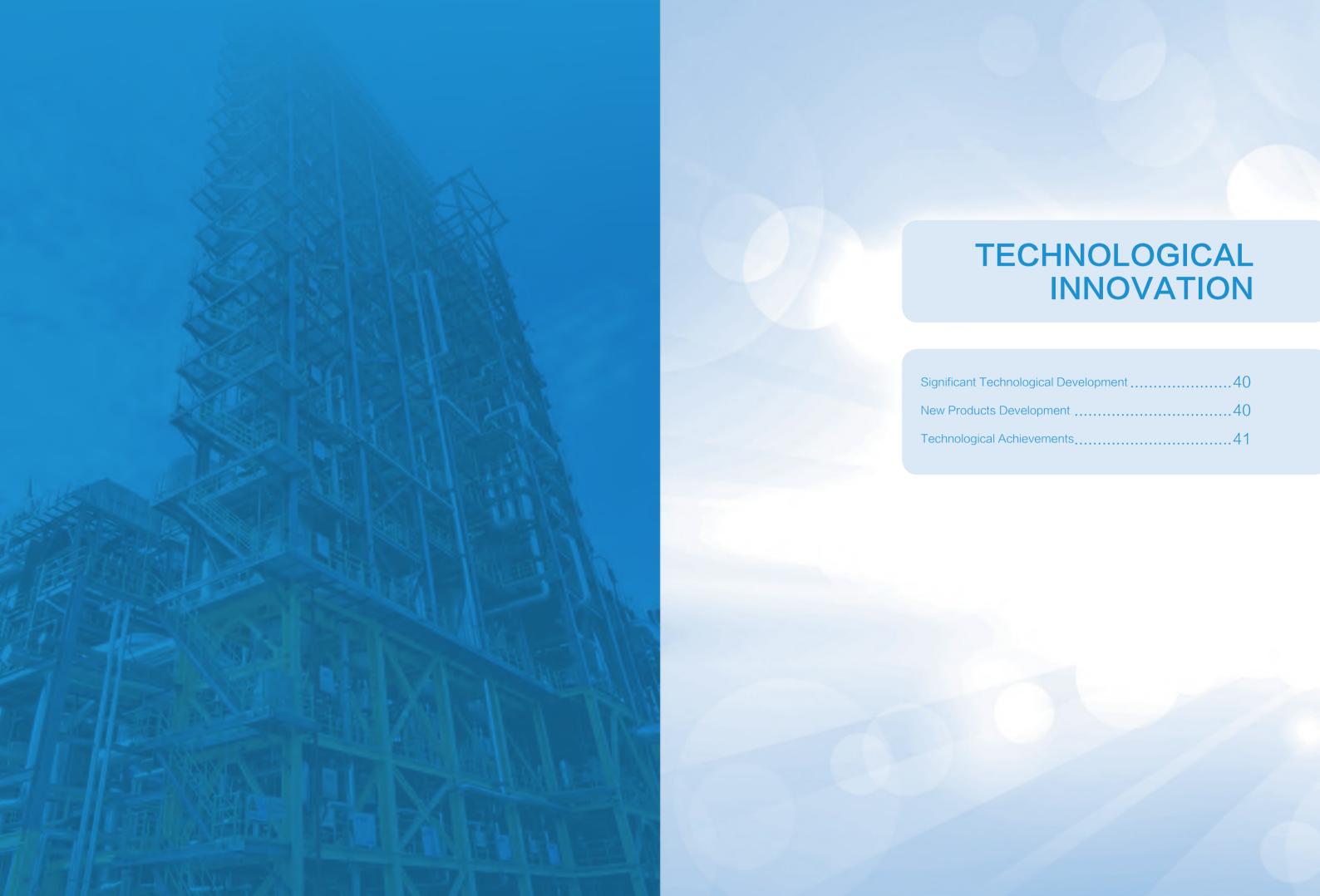
42 Hong Kong 53 Taiwan

44 Indonesia 54 Thailand 55 Vietnam 46 Korea 47 Macau North America 48 Malaysia 56 Canada 49 Mongolia 57 Mexico 50 New Zealand 58 United States 51 Pakistan 52 Singapore Central & South America

59 Argentina

60 Bolivia 61 Brazil 62 Columbia 63 Ecuador 64 Trinidad and Tobago 65 Venezuela

36 | CHINA PETROCHEMICAL CORPORATION ANNUAL REPORT 2017 INTERNATIONAL OPERATIONS | 37



# Significant Technological Development

# **Technological Achievements**

In 2017, the company carried out the innovation-driven development strategy in depth, giving high priority to R&D and following the basic principles of development-orientation, deepening reform, strengthening incentives, open-up and coordination. We focused on the supply-side structural reform, continued to deepen systematic reform of R&D mechanism, sped up research on key technologies, reinforced study on cutting-edge technologies and new areas, so as to increase the capacity to support and guide the company's businesses.

We continued to enhance the problem-oriented approach, and made new breakthroughs on key technologies. In E&P, we further developed the evaluation and exploration technology for deep carbonate and shale gas, which supported the scale up of deep shale gas resource in Shunbei oilfield and South Sichuan, leading to breakthrough in new formations in Sichuan Basin. We also improved the natural depletion reduction technology for Tahe fracture-cavity carbonate reservoir which effectively reduced depletion rate. In refining, we realized long cycle and full load operation of ebullition bed residue hydrogenation demonstration plant, and completed industrial test of solid super-acid catalytic technology for  $C_5$  and  $C_6$  isomerization. In chemicals, we achieved stable operation of syn-gas to ethylene glycol demonstration plant and successful start-up of long chain dicarboxylic acid demonstration facility.





# **New Products Development**

We continued to push forward R&D of high-value added synthetic resin technology, and achieved commercial production of low VOC polypropylene for vehicles and high transparency and low precipitation polypropylene for plastic package. We developed biaxial stretching

polyethylene, a special resin which can be applied to food packaging film. Moreover, environment-friendly high stiffness and toughness PP resin realized long cycle and stable production and carbon fiber sucker rod achieved wide application.

In 2017, the company applied for 6,830 patents, among which 4,239 were granted. An asteroid has been named after Ma Yongsheng with the approval of the Committee on Small Body Nomenclature of the International Astronomical Union. The company won 3 first-prizes and 1 second-prize of

National Science & Technology Progress Award, 2 second-prizes of National Technological Invention Award, and 11 honorable mentions of Chinese Patent Award. Mr. Dai Houliang and Mr. Xie Zaiku were elected member of CAE and CAS, respectively.

### National Technological Awards in 2017

Item	Project Name	Prize
1	High efficiency E&P of Fuling large scale marine facies shale gas field	First prize of National Science & Technology Progress Award
2	High efficiency MTO technology	First prize of National Science & Technology Progress Award
3	Development and application of large scale modern coal chemical technology package for CTL/CTO	First prize of National Science & Technology Progress Award
4	Precise description, numerical simulation and high efficiency water injection development technology for marine facies fracture-cavity carbonate reservoir	Second prize of National Technological Invention Award
5	High efficiency chemical feedstock production technology through directional conversion of hydrocarbon molecules	Second prize of National Technological Invention Award
6	Deep delayed coking technology for enhancement of light oil yield	Second prize of National Science & Technology Progress Award

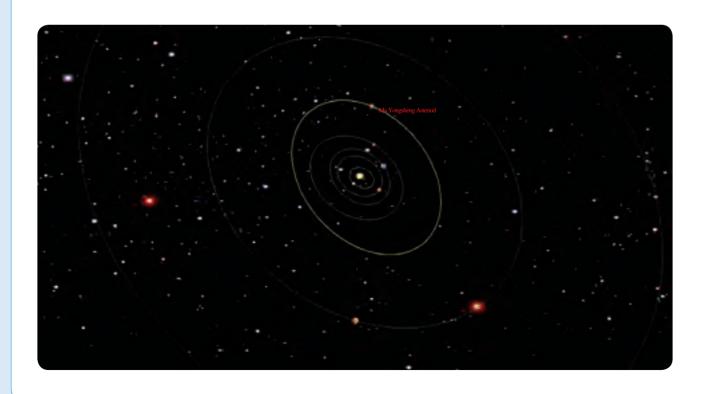
### **Chinese Patent Awards in 2017**

Item	Name of Patent	Award
1	One torsional impact drilling tool	Honorable mention of Chinese Patent Award
2	One production method for low compression ratio hot rolling 9Ni steel plate	Honorable mention of Chinese Patent Award
3	Application of one zwitterionic surfactant for tertiary oil recovery, its production and application method	Honorable mention of Chinese Patent Award
4	Single well huff and puff heavy oil production method using microorganism and $\mathrm{CO}_2$	Honorable mention of Chinese Patent Award
5	New catalyst of ethylene trimerization, its production and application method	Honorable mention of Chinese Patent Award
6	Organosilicon microporous zeolite, its synthesis and application method	Honorable mention of Chinese Patent Award
7	Coalescing zeolite absorbent and its production method	Honorable mention of Chinese Patent Award
8	Scavenger for H <sub>2</sub> S leakage	Honorable mention of Chinese Patent Award
9	Super-high density dispersant for drilling fluid, its production and application method	Honorable mention of Chinese Patent Award
10	Hydrocracking process with low energy consumption and higher chemical feedstock output	Honorable mention of Chinese Patent Award
11	Solvent for $\mathrm{CO}_2$ removal of Fischer–Tropsch recycling gas, its production and application method	Honorable mention of Chinese Patent Award

On July 27, 2017, the naming ceremony of Ma Yongsheng Asteroid and the academic seminar were held at Sinopec HQ. Recommended by the Ho Leong Ho Lee Foundation, the Committee on Small Body Nomenclature of the International Astronomical Union approved the application submitted by Purple Mountain Observatory of CAS, naming the No. 210292 asteroid after Ma Yongsheng.







# Three first prizes of National Science & Technology Progress Award

# Project Name: High efficiency E&P of Fuling large scale marine facies shale gas field

Depending on proprietary innovation, this project has been built into the first national shale gas demonstration zone. With this successful development, China became the third country after USA and Canada which holds the whole set of development technologies for shale gas. This project also marked the significant breakthrough in China's shale gas business, realized the leap-forward development of shale gas E&P and provided a replicable experience. In addition, the project is critical to energy structural adjustment, addressing the short supply of natural gas in central and east China, and energy saving, emission reduction and air pollution control.





# Project Name: High efficiency MTO technology

With the success of this project, China became the first country that owns the proprietary technology package for MTO. We not only commercialized the proprietary methanol to ethylene and propylene technology, but also provided advanced and reliable process package for coal chemical businesses which could be an option to replace petroleum.



# Project Name: Development and application of large scale modern coal chemical technology package for CTL/CTO

This project was jointly completed by Sinopec and Shenhua. It is a world leading technology which solved a series of world-class technical problems.



# CORPORATE MANAGEMENT

Reform and Management	46
HR Management	47
Integration of Informatization and Industrialization	48
Corporate Governance	50
Corporate Culture Building	51
CPC Building	52

Reform and Management

HR Management

In 2017, the company implemented a series of decisions made by the Central Committee of CPC and State Council to fully deepen the SOE reform with solid and stable steps. Taking supply-side structural reform as the principle line, we pragmatically promoted and deepened reform, constantly improved corporate management, and endeavored to raise efficiency, increase vitality and forge competitive edge.

Stable progress in deepening reform. We laid down the Guidance for the Implementation of Sinopec's Deepening Reform, which clarified the general thinking, principles, major targets and reform tasks in nine areas, set working plan from 2017 to 2020, and preliminarily established the framework for comprehensive reform. We built up and improved working mechanism on regular basis, and reinforced assistance and guidance for key subsidiaries in difficulties. We completed the treatment of 8 subsidiaries in difficulties which were supervised by SASAC, shut down Hangzhou Petrochemical Co., finished liquidation of Zhejiang Jinyong, and completed the treatment task for 7 other subsidiaries ahead of schedule. Treatment of unprofitable subsidiaries at all levels achieved significant results, with number of unprofitable subsidiaries down by 15.9 percentage points. We also successfully streamlined organizations by cutting 116 legal entities. The reform towards standard companies was basically completed, with 113 subsidiaries being restructured. 70% of the separation and transfer of water, electricity, heating and gas supply and property management was completed. The transfer of other social functions was going on smoothly. Sinopec Oilfield Service Co. completed the private placement, which helped improve its capital structure. The IPO preparation of Sinopec Marketing Company was under steady progress. The mixed ownership reform plan for geothermal business of Sinopec Star Company started to take shape. Human resources reform and relevant pilot operation were promoted in a coordinated manner and with better HR allocation and sharing. The Shared

Service Company was established, which further improved resources sharing. The pilot independent operation of Northeast China Company achieved preliminary success, marking a breakthrough for internal transfer of oil and gas blocks. The reform of the non-listed subsidiaries was pushed forward in an orderly manner.

Constant improvement of corporate governance. We modified, issued and implemented Guidance for "Three Basics", which improved the evaluation standards of fundamental work procedures. We continued to summarize and roll out management experiences from grass-root subsidiaries, so as to constantly enhance management at grass-root level. For example, we took Sinopec Oilfield Service Co. as a pilot to work out an Operation Manual for Grass-root Positions and its application module. We modified and issued regulation of performance assessment, which focused more on differential assessment, and key factors affecting sustainable development. The orientation of performance assessment was further strengthened. We modified and issued regulation of system management, promoting the use of flow charts, tightening approval procedure, supervising and guiding the systematic construction, and reinforcing the systematic execution capacity. We also modified and issued 2017 Internal Control Manual for HQ and Subsidiaries, carried out dynamic monitor of key risks, strengthened overseas investment risk management, supervised and urged some subsidiaries to rectify so as to constantly improve the capability of risk prevention and control.



In 2017, the company's HR work focused on deepening reform, increasing vitality, improving quality, adjusting structure and enhancing basis. We achieved significant results in leadership and management team building, employment, compensation, talents' training and team building, etc.



New achievements in leadership and management team building. We modified, drafted and improved several regulations related to leadership and management team building. We carried out recruitment of professional managers and continued to push forward competitive selection of leadership. We also set up a data base for the leadership assessment so as to support a multi-dimensional evaluation. We optimized management team structure with more flexible selection and assessment measures, and recorded a new high of HR satisfaction. Moreover, we controlled the size of middle level management, and improved supervision system of management team.

New progress in recruitment and compensation. We worked out and improved standards for organizations and number of positions, organized comprehensive benchmarking and strengthened the work of "function, organization and position scale identification". We implemented integrated optimization for annual employment plan, recruitment of graduates and introduction of talents, and improved and adjusted incentive policies and HR coordination and allocation platform. We strengthened the link between HR cost budget and profit and adjusted the regulatory mechanism of HR cost.

In addition, we focused on profit-oriented compensation budget, improved compensation distribution, and explored market-oriented compensation management method. With relevant regulations of overseas HR cost and compensation being adjusted, we selected some subsidiaries with international business as pilot units. The incentive policy for R&D results conversion was also implemented. We set working plans for the reform of three systems and the reform of deepening talents development mechanism, and identified 6 aspects of key reform tasks and 28 key reform projects.

New steps taken for talents team building and development. We further broadened the talents development space and channels, and established multi-dimensional professional development system. Through a series of new regulations and adjustment of existing ones, we promoted systematic construction of professional title appraisal and occupation contests, reinforced introduction of high-end talents, pushed forward development of position training courses and construction of training bases, optimized recruitment of graduates, enhanced management of positions and staff and identification of organization functions, and strengthened talents team building.

# Integration of Informatization and Industrialization

The company firmly seizes historic opportunity of the new S&T revolution and industrial transformation, actively address the requirements of the national information strategy, accelerates deep integration of informatization and industrialization, vigorously promotes intelligent manufacturing, actively fosters new forms of "Internet+", strives to build a national benchmark, and injects strong driving force into pattern shift, structure adjustment, and improvement in quality, efficiency and upgrading.



Promoting smart manufacturing and innovation in production and operation. The company successfully developed ProMACE, an intelligent manufacturing industrial cloud platform, created "platform + service", a new mode of industrial internet application, and completed design of Smart Factory 2.0. The smart factory construction was in a leading position in domestic process industry, and many achievements were recognized by various ministries. Maoming Petrochemical Smart Factory Pilot Project and Zhongyuan Puguang Smart Gas Field Pilot Project were selected by the Ministry of Industry and Information Technology as "2017 Smart Manufacturing Pilot Demonstration Project". "Petrochemical Industry

Smart Factory Solution" was selected as "2017 Integrated Demonstration of Manufacturing and Internet Finance". "Localization of Large Intelligent Aromatics Plant Construction Project" was selected as "2017 Smart Manufacturing New Model Application Project". PCITC was named among "First Batch of National Smart Manufacturing Solution Suppliers Recommended List." Yanshan Petrochemical, Maoming Petrochemical, Zhenhai Refining and Chemical, and Jiujiang Petrochemical all deepened their applications of smart factories, which enhanced production efficiency and economic benefits. The transformation and upgrading of the production and operation command system of Sinopec headquarters was completed,



which provided support for timely command of production dynamics, overall planning, and emergency support.

Actively nurturing new business of "Internet+", and promoting innovation in business service model. On April 18, 2017, China's largest e-commerce platform for industrial products, EPEC international service platform (English website) was officially launched. It was selected as "2017 Demonstration Project of Manufacturing and Internet Finance Integration" and was listed one of the 8 key deliverables of BRICS cooperation in 2017. The annual turnover exceeded 130 billion yuan. "Chememall" (chemicals sales e-commerce) was committed to integrating vertical industry chain between upstream & downstream and horizontal supply chain among enterprises so as to achieve efficient interaction from factory to customer end, and aid the supply-side structural reform. In 2017, the amount of online transactions increased by 470,000 tonnes, accumulatively increased 78 million yuan. Construction of 95388 unified customer service number was completed, handling customer inquiries about fuel card, chemical products, lubricants, and EPEC. 270,000 incoming calls were received and

5.92 million text messages were sent. The construction and application of unified payment platform was advanced with a variety of payment and settlement methods covering various types of B2B businesses, and funds were transferred in real time through commercial bank accounts, achieving an online closed loop between order flow and capital flow.

Promoting construction of integrated and shared operation and management platform. New ERP construction progresses were made in 11 branches. SEG ERP was put online in 11 domestic enterprises. SSC completed construction of ERP template and put online in its headquarters and five pilot enterprises. We also reviewed and evaluated the ERP progress and results, and further promoted improvement of ERP application in enterprises. The shared service platform was improved, which supported integration of finance, human resources and IT. The promotion and application of electronic bidding for engineering projects was strengthened, which realized full disclosure of key business links in project bidding, full track of historical information, and whole process supervision.

# **Corporate Governance**

# **Corporate Culture Building**

### Law-based Governance

The company implemented law-based governance, improved rule of law, prevented and resolved legal risks, strengthened management according to laws and regulations, and advocated the rule of law culture. The company's production, operation, reform and development were all incorporated into the rule of law

The company's leading Party members group issued a policy paper specifying that top management member shoulders the primary responsibility in implementing the rule of law. The company further improved the general counsel system, strengthened construction of the company's in-house lawyers team, and strictly conducted legal-operation

assessment of the management of the affiliates. Approval procedure of major decision-making matters were strictly followed. Legal review of investmentrelated decision-making was institutionalized. Legal supervision and compliance management in key business areas were carried out. Dispute litigation achieved remarkable results. The company fully implemented the legal risk prevention and control responsibility system. Legal risks in international business were carefully investigated, and the approach of "one case, one policy" was adopted to resolve legal risks. Contract management was intensified with a signed contract number of more than 555,000 in last year and contract value of more than 1.8 trillion yuan. The company

> improved the legal work process, standardization, and informatization with focus on optimization of the contract management system and the second phase of the comprehensive legal management system. The company actively participated in the compiling of national oil and gas law and other legislative work. The legal affairs related with industry and commerce, licensing and trademarks were standardized, and corporate credit information management was strengthened. The working responsibility system namely "Popularizing law with business" was implemented, legal dissemination of "Safe Production" was conducted. By the means of new media and innovative forms, the majority of employees enhanced their ability and awareness to compliance and rule of law, and the law-based governance elevated to a higher level.

# Audit Supervision

In 2017, the company carried out 1,100 auditing projects of various types, which effectively provided supervision, protection, and warning for businesses and operations.

The company deepened audit of economic responsibility of corporate leaders, combined routine audits such as financial revenues and expenditures, internal control evaluations, and fixed assets investment to audit and supervised the effectiveness and rationality of system execution. Based on supply-side structural reform and the principle of maximizing the company's benefit, we carried out special audits and audit investigations.

strengthened effective use and transformation of supervision results, and promoted "broader supervision" mechanism. While strengthening audit and supervision, the company vigorously advanced audit management to improved quality and efficiency. 8 branches were awarded the title of National Outstanding Enterprises for Internal Audit and 4 people were awarded the title of National Outstanding Personnel for Internal Audit.

In 2017, the company insisted on innovation in inheritance, development in innovation, continuously promoted corporate culture construction, firmly kept in mind our original aspiration of "Loving China, Revitalizing the Petrochemical Industry" and mission of "Powering Better Life", and persisted in the feelings of serving the country through industry and guided employees to carry forward the fine traditions of strictness, truth and pragmatism, which provided strong cultural support for the company's sustained and healthy development.





Strengthening specific cultural construction. The company focused on promoting specific cultural genes in safety, environmental protection, quality, rule of law, and honesty, promoted the integration of corporate culture and business management, and improved the fundamental management level. In particular, in safety cultural construction, by the activity of "Work Safety Month", various enterprises further expanded safety culture concepts such as "safety should prevail anything and life is the most precious",

Focus on grassroots cultural construction. The company paid great attention to the implementation of grass-roots culture, and took it as an important means to improve management at the grassroots level. The company promoted fine spirit and working style of the industry, and actively explored effective ways for the company's core value concept to be implemented at the grassroots level, and promoted grassroots cultural

Strengthening cross-cultural management. During the process of international development, the company always adhered to the concept and connotation, safeguarded the company's mission and corresponding value criteria, and strived to promote harmonious development of economy, environment, and the society wherever we operated. In 2017, the company issued the "Corporate Cultural Construction Outline (English Version)", which provided a policy basis for the construction and dissemination of foreign-related corporate culture.

Strengthening corporate culture assessment. The "Evaluation and Appraisal Method of Corporate Cultural Construction (Trial)" was issued,

and a more quantified assessment standard was put forward in 15 aspects in terms of organizational management, work implementation, and work effect. Every enterprise was required to conduct self-examination annually and adjust the contents of corporate cultural construction according to the evaluation results. Based on the assessment, at the beginning of 2017, the company selected 20 advanced branches and 155 advanced individuals in corporate cultural construction.

Strengthening selection of role models. The company strengthened and improved the role models selection, recommended Song Liping from Zhongyuan Oilfield as a "Model of Central SOEs", and Tian Ming from Jiangsu Oilfield as a national Lei Feng Model. At the same time, the company actively promoted new models and recommended Zhang Hengzhen from Maoming Petrochemical as a major model of central SOEs, and the story of Luo Jiangiang, "Grassroots Inventor", was appraised as one of the Top 10 figures of central SOEs. "Song Liping Love Volunteer Service Team", "Lifeline Express", "Mengcheng Community of the 8th Community Management Center of Zhongyuan Oilfield" and "Ethylene Plant Community of Maoming Petrochemical Company" won the 2016 National Volunteer Service "Four One-hundred" honorary title. In addition, employees at Sanliban Service Station in Sichuan Province courageously prevented a man from setting a fire at the station and were awarded for remaining faithful to their duty regardless of danger. The video footage of the incident recorded more than 10 million hits on Weibo.

50 | CHINA PETROCHEMICAL CORPORATION ANNUAL REPORT 2017 CORPORATE MANAGEMENT | 51

# **CPC Building**

In 2017, the company's leading Party members group closely focused on the Party's main line of studying and publicizing the 19th National Congress of the CPC to deeply learn and understand Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. The company adhered to combining ideological Party building and institutionalized Party governance, unite Party leadership and corporate governance, integrate Party building and business operation, focused on grassroots and foundation, solidly promoted full and strict governance over the Party, gave full play to the roles of Party organizations at all levels and the majority of Party members, and provided strong guarantee for Sinopec's all-round sustainable development.

In-depth study, publicity and implementation of the spirit of the 19th National Congress of the CPC. The company focused on studying, publicizing and implementing the spirit of the 19th National Congress of the CPC and took it as the primary political task, made efforts in learning, understanding and implementing, conducted study, publicity and implementation in various forms, at various levels, and in various aspects, promoted the spirit to every plant, workshop and employee.

Promoting the unity of the Party's leadership and corporate governance. In accordance with the "two consistent" requirements, the general requirements for Party building work were written into the company's charters at all levels. "Leading Party Members Group" was written as a single chapter in the articles of association. 8 listed companies within Sinopec successfully made Party building into regulations, and other corporate entities basically realized that as well, which brought significant breakthrough in improving corporate governance.

Enhancing grassroot construction of the Party. The company held working conference of grassroot Party branch, made comprehensive arrangements for promoting full and rigorous governance of the grassroots, strengthening the construction of grassroots Party branches, clarified the functional orientation

and major tasks of the Party branch, formulated and implemented three basic Party building work systems, and launched training for grassroots Party branch secretary, and further established and implemented a clear orientation of focusing on the grassroots and "all Party work to the branch".

Implement strict governance of the Party-For the fourth consecutive year, the company carried out Party-building evaluations covering the whole system, fully implemented the system that Party secretary is the major responsible person for Party-building, report and appraisal, conducted practical research on key and difficult issues for Party building, and promoted the overall level of Party building work. We further promoted the institutionalization of the "two studies and one action" education, comprehensively applied the Party-masses working management system, and promoted the "three sessions and one lesson" in daily life of the Party.

Strengthening the Party's leadership over non-Party members. The company vigorously carried out skills contest, continually organized activities of "visiting 10,000 families to address their difficulties" and "visiting youth to seek role models". In 2017, we visited more than 12,000 working units and nearly 200,000 employees, solved more than 8,000 practical problems, and helped 230,000 people with difficulties.





In 2017, the Leading Party Members Group and the Discipline Inspection Group of Sinopec were engaged in fostering a healthy atmosphere of integrity and entrepreneurship, exercising strict governance over the Party. As a result, notable progress was achieved in developing honest work style of the Party and fighting against corruption.

Stringent Party governance. To ensure the political responsibility for governance over the Party to be fulfilled at each level of the Party organization, the Leading Party Members Group held talks with senior executives of business units and subsidiaries through over 600 meetings. In addition, the head of the Group and Chief of Discipline Inspection Group met with all newly-appointed senior executives and instructed them on clean and honest administration. And the Party Committee members of each subsidiaries conducted 7,597 such talks with senior managers under their administration.

Effective oversight on Party governance. Based on the approach of "dual-leadership, vertical management, superior oversight and resource integration", effective oversight was achieved on Party governance, so as to ensure corporate governance system to be stronger in decision-making, more efficient in implementation and more powerful in supervision. We established an Oversight Committee at the group level and promoted such committees to be set up on trial in subsidiaries.

Giving top priority to Party discipline. In order to strengthen discipline and administrative capacity, we carried out a full-month anti-corruption campaign, organizing online quiz on Party rules of discipline and integrity, and publishing booklets on the "Confessions" of individuals violating laws and regulations. We set up archives for Party members to record their compliance of Party discipline, covering 1,092 senior executives and over 14,400 managers.

Further implementing Eight-Point Decision. We strictly implemented the detailed rules of the Eight-Point Decision on improving Party and government conduct and had them amended. We set up yardstick and bottom lines for all Party members to improve their conduct and work style. While resolutely fighting against the practice of formalities for formalities' sake, bureaucratism, hedonism, and extravagance, we took earnest actions as a responsible employer to render warmth and care to employees by providing them benefit package they deserve.

Effective disciplinary inspections. We carried out disciplinary inspections on 51 subsidiaries to identify 989 problems and give 304 pieces of advice and suggestions. We took specific and thorough inspections on overseas organizations, involving the situation of overseas employees, the asset portfolios and financial status. We completed the inspections on our part of overseas organizations. We conducted special inspection on housing status of the senior executives, as well as the housing status of the managers working in Beijing. We cleared up unnecessary resident offices that our subsidiaries set up in Beijing, which helped better use corporate resources and fend off any potential corruption risks.

Improving accountability system. We fully implemented Institution Building Plan of 2017, formulating and amending eight institutional documents, including Measures on Implementing the Rules of Accountability of CPC, Detailed Rules on Further Implementing the Eight-Point Decision, Mechanisms on Allowing for and Addressing Errors of Senior Executives and Managers, etc. All of these institution-building efforts provided guidance and standards to strengthen regular oversight, conduct strict corporate governance and tighten up accountability.



# SOCIAL RESPONSIBILITY

Safety and Occupational Health	.56
Green & Low-Carbon	.58
Community Development	.60
Public Welfare	.61

# Safety and Occupational Health

In 2017, in the spirit of safeguarding public security to facilitate overseas market expansion and improve economic results, and based on the approach of "life first, prevention matters and safe development", Sinopec continuously improved prevention-driven management in overseas public security. By the end of 2017, we had achieved "zero death" in overseas public security for 10 consecutive years.

### Production Safety

Consolidating safety management system. We drafted long-term problem-solving work scheme. We set up the HSSE management framework covering production safety, environment, occupational healthy and public security, which served as institutional foundation for a long-term HSSE management system. We optimized the safety management system into the one of its kind that involved overall rules and regulations, concrete measures and specific actions, which served as the support for HSSE management framework

Responsive leadership on safety management. We conducted monthly HSE meetings at the Group level and required the president of each production subsidiary hold HSE meetings on monthly basis. The president of each production subsidiary is the first person responsible for safety risks, taking the lead in controlling major safety hazards and attending safety checks. As a result, the responsive leadership on safety management demonstrated stronger influence on all employees' safety behaviors.

Dual-prevention system and hazardous chemicals management. We improved all-employee risk management capabilities through six training programs. We organized special campaigns to identify, analyze and measure safety risks, listing all kinds of safety risks and managing them in different grades. We carried out dynamic management in checking and addressing safety hazards. We formulated and disseminated the action plan on compressive management of hazardous chemicals, with special emphasis on handling and transporting such chemicals as well as tank farm management. We formulated and disseminated measures to address the leakage of hazardous chemicals, with specific requirements for leakage risk control, root-cause precaution and emergency response. We organized workshops where the production subsidiaries met together to share best practices in leakage management and improved themselves through mutual learning.

Improving contractor management and operational safety. We organized sector-specific meetings on contractor safety management, analyzing root-



causes and providing solutions. We amended Contractor Management Measures to clarify the division of responsibilities of engineering, equipment and safety departments while highlighting the safety responsibility of project supervisors. We carried out special campaigns for contractors on construction sites, specifying safety requirements on unconventional operations and conducting safety checks to put operation under overall control.

Strengthening overall emergency response. We had production subsidiaries make mutual assessment on each other's emergency plans, providing emergency response process model and making plans more problem-oriented and effective. We worked with municipal and provincial governments of China and conducted joint drill for H2S leakage and shale gas well blowout. We worked with CNPC and CNOOC for joint fire-fighting simulation drill for crude tank farm explosion and fire. We carried out various safety drills across the board without giving pre-notice while forbidding window-dressing work plans. By the end of 2017, we had sent relief teams for over 1,200 external accidents. For example, Sinopec Qingdao Refinery sent relief team to support the local safety staff in a LNG truck leakage on the Qingdao-Lanzhou Expressway, which was highly praised by National Administration for Work Safety Emergency Response and the local government.

Improving public security management. We published the Inspection Plan on Anti-Terrorism and Security Work during the 19th National Congress of Communist Party of China, conducting inspections without giving pre-notice on the oil depots, gas stations and hazardous chemical warehouses at 18 Sinopec subsidiaries surrounding Beijing and Xinjiang Autonomous Region. During the BRICS Xiamen Summit in September, Sinopec subsidiaries in Fujian province were all in standby and 24-hour on call with available precaution plans against terrorism and security risks. We

worked closely with regional governments to support public security work. We made continued efforts to crackdown oil-stealing activities along the long-distance crude pipelines and achieved the goal of zero damage to or illegal construction projects above pipelines, zero pollution, and zero incident.

Emphasizing Three-Basics work. With strong emphasis on process discipline, operation discipline and labor discipline, we conducted stringent work-shift system, surveillance system and equipment maintenance and protection system. We innovated grass-root safety training mechanism, including making trial efforts to connect safety training with career promotion and providing training through user-friendly multimedia presentation and case-study. We carried out all-employee safety diagnosis campaign which involved over 500,000 person-times in 2017 and engaged first-line operators in gaining stronger sense of safety and identifying potential hazards.

# Overseas Public Security

In 2017, in the spirit of safeguarding public security to facilitate overseas market expansion and improve economic results, and based on the approach of "life first, prevention matters and safe development", Sinopec continuously improved prevention-driven management in overseas public security. By the end of 2017, we had achieved "zero death" in overseas public security for 10 consecutive years.

Heightening public security awareness. At the video conference held in 2017 in commemoration of the 10th anniversary of the 4.24 Ethiopian incident, we reviewed the overall overseas public security work of the past decade and published a documentary specially made for the anniversary.

Improving public security management institutional system. We amended Sinopec Overseas Public Security Risk Evaluation Standards and issued a number of documents, including Standards on Distributing Overseas Onshore Security Facilities and Security Force, Guidance on Overseas Employee Health Risk Evaluation (trial version), Measures on the Performance Assessment of Overseas Public Security Management. In addition, we intensified performance assessment on physical and mental health management for overseas employees and overseas public security management, strengthening the institutional building for closed-loop management.

Strengthening overseas public security risk evaluation. We conducted overall risk evaluation for the business operations in 65 countries and regions and published two issues of Report on Sinopec Overseas Public Security Risk Evaluation. We reviewed and approved over 150 risk evaluation reports on newly launched overseas projects or newly established overseas organizations, and had more than 200 dynamic risk evaluation reports on overseas projects. We developed and put online the Overseas Public Security Risk Evaluation Information System where about 5,000 security incidents in 69 countries and regions were recorded and more than pieces of security reminder were available.

Strengthening overseas public security training. We carried out about 150 training programs in China, including preliminary training and secondary training, covering more than 5,000 persons. We organized overseas trainings in host countries, including 5 training courses for more



than 200 overseas staff in Saudi Arabia. We designated specialized security experts to give on-site trainings for overseas organizations and projects. We carried out training sites verification and best program appraisals.

Reinforcing security facilities and force. Through the year of 2017, we sent security officers and advisors on mission for about 2,000 days in Pakistan, Sudan, Central Africa, Algeria, Nigeria and Saudi Arabia. We had security facilities built and models made mainly in the training site of Beijing.

Capacity building in overseas emergency response. We improved overseas remote communication system for emergency response. Such communication devices were put into operation in the countries of high risks and large presence, such as Nigeria, Ecuador and South Sudan. We properly addressed a number of fatality cases due to immediate disease, traffic and production accidents, and successfully had the staff evacuated from Central African Republic during chaotic times.

Carrying out overseas public security auditing. We completed overseas public security audit for 40 overseas organizations or project teams set up by 24 Sinopec subsidiaries, which fulfilled management responsibility and eliminated potential loopholes.

# Occupational Health

Supervising labor protection and improving occupational health management. We controlled the source of occupational health hazards and forbade the use of asbestos and its derivative products at workplace. We strengthened "Three Simultaneities" occupational health management and checked the occupational health hazards at each key point of operation site, including toxicants and dust concentration. We conducted special inspection of labor protection apparatus and made on-site checkup on the quality of air respirators. In addition, we made sample checkup on the quality of labor protection clothes, shoes, helmets and safety belts.

Reinforcing physical and mental health management of overseas

employees. We launched the campaign of 2017 to reinforce overseas employees' physical and mental health management with detailed programs for relevant overseas organizations. We recruited third-party agencies through public bidding to make risk evaluation on overseas employees' physical and mental health. We had occupational health expert visit overseas employees on site and advise them on mental health management, including providing services for 150 employees in Algeria. We instructed each of the overseas organizations to properly use the Mental Health Improvement Platform built by Shengli Oilfield and organized special training program .

# **Green & Low-Carbon**

In 2017, guided by ecological civilization construction and based on the philosophy of green and low-carbon development and principles of energy conservation, environmental protection and pollution prevention, the company adopted integrated management for energy conservation and carbon emission reduction, enhanced environmental risk prevention and control, actively addressed and prevented air pollution, steadily advanced "Energy Efficiency Doubling" Plan, improved carbon asset management and completed all tasks. Sinopec received many honors including Outstanding Enterprise Award, China's Most Influential Green Enterprise Award, Low-Carbon Model Award, etc.

# Energy Management

Targets of energy and water conservation were achieved. In 2017, Sinopec's energy consumption per 10,000 yuan of output was 0.532 tonne of standard coal (with comparable price in 2010 as benchmark), down by 1.43%, saving energy equivalent to 1.3 million tonnes of coal. Industrial water consumption decreased by 1.27%.

Integrated management of energy and environment was improved.

We set detailed rules and regulations for energy and environment performance appraisal so as to incentivize subsidiaries to do better in terms of energy and environment, standardize subsidiaries' practices of environmental protection and low-carbon management, improve our energy and environment management capability and achieve goals of energy conservation and carbon emission reduction. The energy auditing work was kicked off according to relevant national laws, regulations and standards. Subsidiaries were inspected, checked and appraised from energy consumption to financial settlement. Energy and environment integrated management system was constantly improved. An energy management system that met national requirements and suited corporate integrated management was set up.

"Energy Efficiency Doubling" Plan was promoted steadily. In 2017, 452 projects were implemented under "Energy Efficiency Doubling" Plan, saving energy equivalent to 949,000 tonnes of coal and generating 920 million yuan in profit. Appraisal was stricter. Monthly inspections, seasonal assessment and annual appraisal were carried out to ensure the effective implementation of "Energy Efficiency Doubling" Plan. Scheduled projects under the Plan were launched. Assessment and selection of projects were made more stringent with guaranteed number and quality. Communication and coordination were deepened. Efforts were doubled in projects approval and investment planning. Projects with funding were accelerated by creating better conditions. Experience of executing "Energy Efficiency Doubling" Plan by business segment and regions was exchanged. Models were selected and subsidiaries were encouraged to learn from each other, help each other and compete with each other so as to perform better. Energy efficiency benchmarking was carried out and "Pacemaker" activities were held.

Steady progress was made in energy conservation. Establishment of technological services and digital platforms were started to collect energy conservation technologies, equipments and materials within the system. Digital technology sharing platform was set up to promote new mature applicable energy conservation technology. Energy conservation technology seminars were organized to exchange good technologies and management practices. Inspection on energy and water conservation was continued



in order to provide scientific and data support for energy and water conservation technology upgrading and measures. In addition, progress was made in setting energy and water conservation standards so as to provide reference for benchmarking and analysis on facilities' energy and water conservation potentials and to support technology upgrading.

Establishment of energy management information system was advanced. Phase I of energy management information system was completed and passed acceptance check. Refining subsidiaries including Sinopec SABIC Tianjin Petrochemical Company and Sinopec Qilu Petrochemical Company completed the construction of energy management information system with five main functions of energy planning, energy operation, energy statistics, assessment & analysis and energy optimization. In particular, in terms of optimized module usage of gas, steam and hydrogen, over 77 million yuan of profit was generated just by optimizing thermal power stations online through steam optimization model.

Systemic water management was strengthened. Total water consumption planning and management were stricter. Water use target was set for Sinopec Group and all its subsidiaries and water efficiency benchmarking activities were organized. Sinopec participated in the national "Pacemaker" enterprise selection. By strengthening water conservation management throughout the whole production process, the company avoided water loss and waste in production and auxiliary production, increased industrial water recycling rate constantly, drove up waste water (sewage) recycling percentage, achieved efficient, reasonable water usage and reduced new water consumption.

### Environmental Protection

Efforts were redoubled in promoting clean production. Sinopec pushed forward clean production and ensured along its entire value chain. We actively advanced air pollution treatment in Beijing, Tianjin, Hebei Province and surrounding areas. Special on-site inspections were carried out targeted on subsidiaries in "2+26" regions. Refining companies' capability of reaching new targets was constantly improved. Pollutants emission management was more stringent with emission system upgraded. On-site supervision was strengthened with relevant mechanism set to make sure that subsidiaries' emission meets new requirements. Comprehensive VOCs remediation work was in full swing with special inspection and environmental examination. We continued to prevent and control soil contamination and underground water pollution and promote abandoned well treatment in oil fields.

Environmental risks prevention and control were enhanced. Sinopec intensified its efforts in process tracking and supervision, carried out field research on major environmental risks, organized risks management & control seminars and pointed out priorities for environmental risks examination work by business segments. In 2017, the company cut 30.3% of major environmental risk sources and there were no environmental pollution emergency cases reported.

Management for energy conservation and environmental protection of construction projects was improved. Based on national requirements, Sinopec adjusted management strategy in time, strengthened process supervision on construction projects, formulated regulations for feasibility study on energy conservation and environmental protection, standardized

special inspection on energy conservation and environmental protection so as to make sure all construction projects do not violate relevant laws and regulations.

Application for pollution discharge licenses began. Technical training for thermal power and petrochemical industries were organized. Detailed Rules of Application for Pollution Discharge Licenses by Sinopec's Power Plants (Trial Version) was compiled. Experts were sent to sites to provide technical services. All Sinopec's power plants and 22 of its subsidiaries had acquired pollution discharge licenses on due time.

Establishment of environmental protection information system was accelerated. Phase I of environmental protection information system was completed and passed acceptance check. The system would improve the company's management of environmental protection and capabilities of environmental risks control, prevention, prediction and emergency

Environmental protection education was promoted. Sinopec organized training of new national environmental protection policies for its employees and compiled reference of environmental protection policy changes to guide the company's work. Environmental protection awareness was strengthened and environmental protection knowledge contest was held with 166,210 participants. Moreover, Sinopec provided environmental protection training to improve environmental protection professionals' capabilities and expertise. We are also putting in place long-term environmental protection management mechanism in order to improve weak links.

# Climate Change Mitigation

Foundation for carbon asset management was consolidated. Various trainings were organized, including carbon auditing and verification and carbon asset management. A carbon asset management team with about 1,100 people was formed. Sinopec continued to improve carbon asset management information system and kicked off the construction of information system at subsidiaries level. Carbon auditing and verification on facilities were completed in 97 subsidiaries, which consolidated the foundation for analysis on facilities' potential in terms of carbon emission reduction and the formulation of emission control measures.

# Green Energy

Sinopec pressed ahead with green and clean energy development. We added new geothermal heating capacity of 11.59 million square meters and increased heating area by 9.84 million square meters in China. We represented 40% of the national total heating in terms of using medium and deep geothermal resources. We added new PV generation capacity of 70 megawatts and built residue heat reuse capacity of 124,000 GJ, equivalent to replacing 1.04 million tonnes of coal per annum and reducing  $\rm CO_2$  emission by 2.56 million tonnes.

Efforts were redoubled in reducing greenhouse gas emission. Sinopec continued to capture, recycle and reuse  $CO_2$ . Recycling of methane in associated gas, oil and gas testing and crude oil gathering and transmission was also improved with 220 million m<sup>3</sup> of methane recycled, equivalent to reducing 3.3 million tonnes of  $CO_2$  emission.

Sinopec actively participated in carbon trading. 26 pilot carbon trading subsidiaries had rolled out feasible plans for honoring agreement and carbon trading. Keeping their carbon emission within the annual quota in 2016, they actively participated in carbon trading. By the end of 2017, Sinopec had traded 3.16 million tonnes of carbon accumulatively with a trade volume of 41.61 million yuan.



# **Community Development**

# **Public Welfare**

While pursuing further development of its business, Sinopec served the society with sincerity, brought warmth into society and improved people's livelihood.

# Improved Management

We improved community management by adopting information-based measures, with many of its subsidiaries developed mobile APP including Shengli, Zhongyuan and Yanshan. Steady progress was made in "smart community" construction. By holding the 1st Sinopec Property Management Contest, we continued to make community services standardized and normalized, and improve property management. The satisfaction rate of our community services has been above 90% over the years. Bearing in mind

the target of building ecological communities, Sinopec advocated protecting the environment by technology and improving community quality through better environment. By the end of 2017, Sinopec owned 23,000 hectares of green land with 30% of green coverage ratio. The area of green land increased by 230 hectares. Each year, over 400,000 people participate in tree planting. Green management was advanced constantly.

# Better Livelihood Projects

Great efforts were made in renovating old residential areas. Overall plans were made and implemented to upgrade water, electricity, heating and gas supply systems and property management. By the end of 2017, Sinopec had invested 4.02 billion yuan accumulatively in renovating 460 old residential areas and 2.93 million m² of road, building 4.72 millionm² of green land, repainting 4.15 million′m² of surface walls and adding 112,000 parking spaces. By doing so, we not only improved the looking of old

residential areas, but also created benign conditions for function transfer to local governments. We completed 17 run-down houses rebuilding projects including 19,320 run-down housing units. Management for employee houses construction was strengthened. Construction of 4,172 new housing units for employees was launched. Construction of 2,218 units was continued and that of 4,008 units was completed in 2017. Employees were happier with better living conditions.

# Sinopec Lifeline Express

In 2017, Sinopec Lifeline Express arrived at Kashgar in Xinjiang, Baishan in Jilin and Guilin in Guangxi and cured 3,126 cataract patients for free. By the end of 2017, Sinopec had donated over 140 million yuan accumulatively to build 1 Sinopec Lifeline Express, 1 Ophthalmic Microsurgery Training Center and 18 Lifeline Express/Sinopec Cataract Treatment Centers. Sinopec Lifeline Express had traveled to 18 provinces including Xinjiang, Qinghai,

Ningxia, Tibet and Sichuan, 33 regions and made 38 stops accumulatively. Over 40,000 patients had been cured by benefiting from this project. Sinopec Lifeline Express has been granted "Special Contribution Award" by Lifeline Express Foundation for 13 consecutive years and selected as Best Volunteer Project in China and Excellent Central SOEs' Volunteer Project by the Communications Department of the CPC Central Committee.

### The Gas station that Cares A Better Road Home

In 2017, Sinopec continued to carry out the project in 238 Sinopecowned service stations in Guangdong and Guangxi Provinces, providing 10,000 "love red envelopes" (free full refueling for once, 1 short-term accident insurance, 1 set of safety clothes and 1 lucky bag provided by Easy Joy), 10,000 free deliveries for motorcyclists, 15 free bus routes, free "1+10+X" services for drivers during the Spring Festival, and 20,000 50% discount e-coupons for drivers.





# Service Stations with Love

The volunteer brand Sinopec built with delicate efforts marked the standardization and normalization of Sinopec's volunteer services, further improving corporate image and passing more positive energy to the society. Sinopec Jiangsu Company made continuous efforts to carry out the project of Service Stations with Love—built 171 stations for sanitation workers that received 13,400 visits in total.



### Support for Law Popularization

Since 2012, Sinopec has donated to China Legal Aid Foundation for 6 consecutive years and supported "1+1" China Legal Aid Volunteer Project. Our legal aid volunteers have paid over 1,300 visits to 392 counties in Central and Western China and dealt with more than 54,000 legal cases. Over 18,000 activities of law popularization and lectures on rule of law

were held and given, directly benefiting over 15.7 million people. Nearly 3 billion yuan of economic losses were retrieved. 2017 marked the 20th anniversary of Legal Aid Foundation and Sinopec received the honor of Special Contribution to the Cause of Legal Aid.

### Serving Farming Season

In 2017, in order to guarantee the production in busy farming seasons like spring plough, summer and autumn harvests, Sinopec increased resource input, optimized resource allocation, carried out policies

supporting agriculture and benefiting farmers and ensured the supply of oil products for agriculture.



### Rescue and Relief

Sinopec always participated in rescue and relief work as soon as possible when disasters like earthquake, fire and typhoon happened. In June 2017 when a landslide happened in Mao County in Sichuan Province, Sinopec made every effort to supply oil products. 10 oil tanks containing 2,160 liters of diesel, 2,400 bottles of Zhuoma Spring water and 15 boxes of instant food

were transported to the rescue scene. In August when an earthquake with 7.0 magnitude hit Jiuzhaigou County in Aba Prefecture of Sichuan Province, Sinopec opened Green Channel to make sure that rescue cars were sufficient, set up assistance stations and provided free water and food for rescuers.

### Volunteer Services

Sinopec was active in volunteer services so as to inject positive energy into the society and boost employees' sense of pride. By the end of 2017, Sinopec had over 200,000 registered volunteers, over 1,500 volunteer teams and more than 2,000 volunteer service bases. In 2017, Song Liping, mediator and head of volunteer station in the 10th community of Zhongyuan Oil

Field, was selected as one of the 1st batch of "Models from Central SOEs". Since 2013, Sinopec Zhejiang Ningbo Marketing Company has carried out volunteer activities to help children with infantile autism, autism, Down's syndrome and other diseases.

# Poverty Alleviation and Targeted Assistance

In 2017, Sinopec invested 92.92 million yuan in 44 poverty alleviation projects in 6 counties of Yuexi and Yingshang in Anhui, Fenghuang and Luxi in Hunan, Dongxiang in Gansu and Yuepuhu in Xinjiang, benefiting 7,929 poverty-stricken households and 28,484 people. Local living conditions were greatly improved. Cooperating with China Foundation for Poverty Alleviation, Sinopec launched 3 projects of poverty alleviation through tourism promotion in Fenghuang and Luxi County in Hunan and Dongxiang County in Gansu with an investment of 16 million yuan.

We also undertook the task of providing aid to Ban'ge County in Tibet and Zeku County in Qinghai in order to help them get out of poverty. Sinopec provided 32.98 million yuan of aid to Tibet, implementing 11 projects including cooperative transportation, aid for poor university students and medical service station expansion in Ban'ge County in Tibet. 10.45 million yuan of aid was provided to Zeku County in Qinghai, benefiting 4,602 people. Sinopec in Tibet 2002-2017 white paper was published, the first white paper on aid for Tibet ever published by central SOEs.



# **CHRONICLE OF EVENTS**

# January .....

**9**<sup>th</sup> Sinopec won four First Second Prizes of National Award for Science and Technology Invention, and one Second Prize of National Award for Science and Technology Progress. The National Science and Technology Progress Award Conference in 2016 was held at the Great Hall of the People in Beijing.

### **February**

**28**<sup>th</sup> As announced by SASAC, Li Yunpeng was appointed Vice President of Sinopec Group, and Deputy Secretary of the Leading Party Members Group.

### March

16<sup>th</sup> Under the witness of President Xi Jinping of China and King Salman of Saudi Arabia, then Chairman Wang Yupu of Sinopec Group and Prince Saud Bin Abdullah Bin Thenayan Al Saud, Chairman of SABIC signed the Strategic Cooperation Agreement in Beijing, with an aim to promote the Belt and Road Initiative and Vision 2030.

### **April**

1st As announced by SASAC, Ling Yiqun, Liu Zhongyun and Li Yong were appointed Vice Presidents of Sinopec Group.

**21**<sup>st</sup> Sinopec held the second session of Public Open Day with the theme of Quest for Smart Energy and called for resource integration and green lifestyle.

**27**<sup>th</sup> Sinopec Shanghai Gaoqiao Petrochemical Co., Ltd. acquired BP's equity of Shanghai SECCO.

### May

**24**<sup>th</sup> Sinopec and CRRC signed Strategic Cooperation Framework Agreement.

### June

13<sup>th</sup> Sinopec and the government of Tibet Autonomous Region signed the Strategic Cooperation Agreement on Enriching and Revitalizing Tibet for 13th Five-Year Plan

### July

**20<sup>th</sup>** Sinopec ranked 3rd on the list of 2017 Fortune Global 500.

### August

**25<sup>th</sup>** The Conference on Integration of Informatization and Industrialization was held in Beijing. 10 Companies including Sinopec were awarded Outstanding Contributors.

**31**th EPEC was listed one of the 8 key deliverables in the 2017 BRICS Business Council annual meeting.

# September

**19<sup>th</sup>** The CPC Central Organization Department announced the change of the leadership of Sinopec Group.

Wang Yupu would leave the company for other post assignment. President Dai Houliang would preside the overall work of the company.

### October

24<sup>th</sup> Dai Houliang was elected alternate member of CPC Central Committee on the 19th National Congress of CPC.

### November ----

**14<sup>th</sup>** The 20th Anniversary Ceremony of Lifeline Express was held in Beijing. Sinopec Lifeline Express was awarded Special Contributor for 13 consecutive years.

**23**<sup>rd</sup> The 13th Global Corporate Social Responsibility Forum China was held in Beijing. Sinopec was awarded Company of the Year in CSR Performance, the only awarded company for 7 consecutive years.

**28<sup>th</sup>** President Dai Houliang was elected member of the Chinese Academy of Engineering. Xie Zaiku, Director General of Sinopec R&D Department, was elected member of the Chinese Academy of Sciences.

### December

**26<sup>th</sup>** Gulei Integrated Petrochemical Project, the largest petrochemical JV between both sides of Taiwan straits, was kicked off in Fujian province.

# **GLOBAL OFFICE**

### **Sinopec Middle East Office**

Tel: 00971-4-4269507, 4252272

Fax: 00971-4-4252280

Add: Level 5, Building No.4, Emaar Square, Sheikh Zayed

Road, Dubai, UAE

### Sinopec Saudi Arabia Office

Tel: 00966-11-2175806、2175805

Fax: 00966-11-2175804

Add: RM405, Almada Center, King Fahd Road, Riyadh,

Kingdom of Saudi Arabia

### **Sinopec Iran Office**

Tel: 0098-21-22700713、22729714

Fax: 0098-21-22733790

Add: 7th Floor, Ettelaat Newspaper Building, South Naft Avenue, Mirdamad Boulevad, Tehran 15499-53117, I. R. Iran

### **Sinopec Southeast Asia Office**

Tel: 0065-65070255、65070257

Fax: 0065-68202590

Add: 9 Raffles Place, #54-02 Republic Plaza, Singapore 048619

### **Sinopec North Africa Office**

Tel: 00213-23-484256

Fax: 00213-23-484258

Add: 15, Rue De Carthage Hydra (16405), Alger, Algeria

#### **Sinopec South America Office**

Tel: 0055-21-38508216

Fax: 0055-21-25535583

Add: Praia de Botafogo, 228,702-705, Botafogo - RJ, Rio de

Janeiro, Brazil. CEP:222250-145

### **Sinopec Central Asia Office**

Tel: 007-727-3111710

Fax: 007-727-3111712

Add: No. 401 office, Block 1b, Business centre "Nurly Tau", No.17 Al-Farabi Ave, Almaty city, 050059, Kazakhstan

### Sinopec Russia Office

Tel: 007-499-3726690

Fax: 007-499-3726690

Add: B203, Business Center West Park, 34, Ochakovskoe Highway, Moscow, 119530, The Russian Federation

### **Sinopec Hong Kong Office**

Tel: 00852-28242638

Fax: 00852-25989366

Add: 20/F Office Tower, Convention Plaza 1 Harbour Road

Wanchai, Hong Kong

### Sinopec U.S.A.Office

Tel: 001-212-759-5085

Fax: 001-212-759-6882

Add: 515 Madison Ave, Suite 27 West, New York, NY

10022, U.S.A

### **Sinopec Washington DC LLC**

Tel: 001-202-5066425

Fax: 001-202-5066724

Add: 975 F Street, NW, Suite 520, Washington DC 20004, U.S.A

### **Sinopec Europe Office**

Tel: 0049-69-66909427

Fax: 0049-69-66909422

Add: Messe Turm, Friedrich-Ebert-Anlage 49, D-60308,

Frankfurt am Main, Germany

#### Sinopec U.K. Office

Tel: 0044-20-38233633、38233632

Fax: 0044-20-38233631

Add: Room 308, 22A, St James's Square London, SW1Y 4JH