

中国油品供需年度回顾 China Oil Market in 2023

摘要 ABSTRACT

2022 年疫情导致中国原油需求回落。2023 年中国疫后复苏和居民出行增加推升汽柴油消费，原油进口和炼厂加工量同比大幅增加。

China crude oil import and processing volume fell sharply due to the pandemic in 2022, and rebound significantly in 2023. The recovery of offline consumption and residents' travel contributed to the increase of oil products demand in 2023.

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1. 中国原油 China Crude Oil

1.1 原油进口 Crude oil import

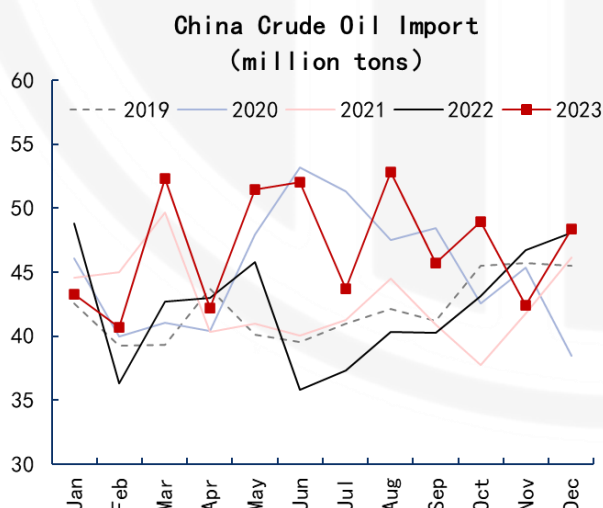
2022 年疫情导致中国原油进口和加工量大幅回落,同比分别下降 0.9%和 3.9%。

2023 年疫后复苏和居民出行推升油品需求快速恢复,炼厂原油加工量大幅增加,而国内原油产量增幅较小,促使原油进口量同比显著上行。2023 年中国原油进口量/加工量/产量分别为 5.64/7.38/2.09 亿吨,同比增加+11.0%/+9.6%/+2.1%。

China crude oil import and processing volume fell sharply in 2022 due to the pandemic, decreased by 0.9% and 3.9% year-on-year respectively. In 2023, post pandemic recovery increased oil products demand, refinery crude oil input rose significantly, while domestic crude oil production remains stable, leading to the surge of crude oil import. In 2023, China crude oil import, processing, and production were 564, 738, and 209 million tons, increased by 11.0%, 9.6%, and 2.1% YOY, respectively.

图表1: 中国原油进口量 (百万吨)

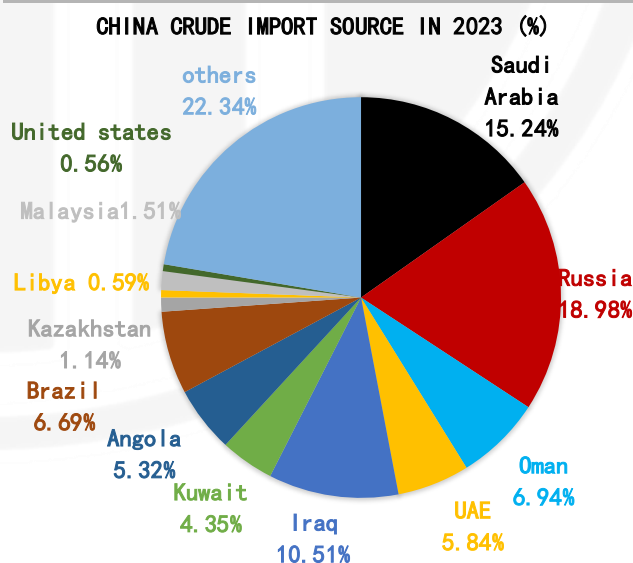
China crude oil import



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

图表2: 中国原油进口来源国

China crude oil import source



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

2023 年，俄罗斯超越沙特成为中国最大原油进口来源国。俄罗斯、沙特占中国总原油进口量分别为 19% 和 16%；其中俄罗斯同比增加 24.1%，沙特同比下降 1.7%。2022 年美欧对俄罗斯石油制裁后，俄罗斯出口欧洲原油逐渐转向亚洲。

Russia surpassed Saudi Arabia as China's largest source of crude oil imports in 2023. Russia and Saudi Arabia accounted for 19% and 16% of China's total crude oil imports, respectively. Russia's imports increased by 24.1% year-on-year, while Saudi Arabia's declined by 1.7% year-on-year. Since 2022, Russian oil export largely shifted towards Asia due to the western sanction.

前 12 大进口国占中国原油总进口量约 77.7%。其中自科威特、阿联酋、阿曼、沙特、安格拉、利比亚、美国进口原油量同比下降 26.3%/23.0%/0.6%/1.7%/0.2%/10.8%/1.2%，从巴西、伊拉克、俄罗斯、马来西亚、哈萨克斯坦进口的原油量同比增加 51.4%/6.8%/24.1%/20.1%/8.8%。

The top 12 importing countries accounted for approximately 77.7% of China's total crude oil imports. The volume of crude oil imported from Kuwait, UAE, Oman, Saudi Arabia, Angola, Libya, and the United States decreased by 26.3%, 23.0%, 0.6%, 1.7%, 0.2%, 10.8%, and 1.2% year-on-year, respectively. Meanwhile, the volume imported from Brazil, Iraq, Russia, Malaysia, and Kazakhstan increased by 51.4%, 6.8%, 24.1%, 20.1%, and 8.8%.

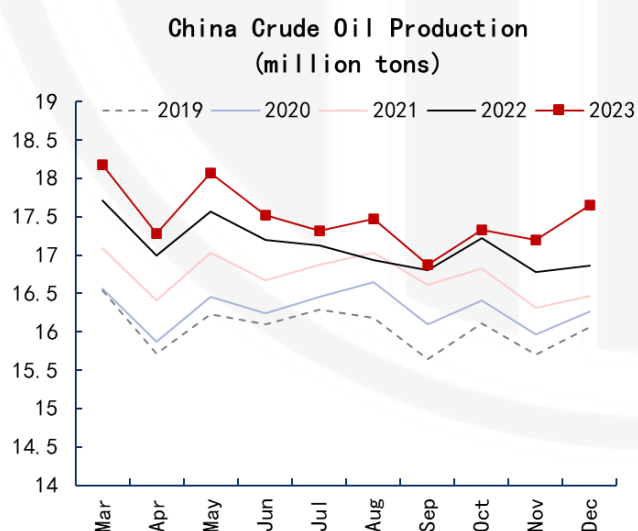
1.2 原油产量 Crude oil production

2023 年中国原油产量小幅增加。国家发改委、国家能源局“十四五”规划指出，要强化战略安全保障，加大勘探开发，争取 2022 年回到 2 亿吨并较长时间稳产。对此国有石油公司持续增加勘探开采资本投入，2021 年原油产量已经增至 1.99 亿，2022 年增至 2.05 亿吨。2023 年继续小幅增加至 2.09 亿吨。

China crude oil production increased slightly in 2023. The 14th Five-Year Plan of the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) highlights the need to enhance energy security and increase exploration, aiming to reach annual production of 200 million tons by 2022, while ensuring stable production for an extended period afterwards. As a result, domestic crude oil production increased from 199 million tons in 2021, to 205 million tons in 2022 and 209 million tons in 2023.

图表3：中国原油产量（百万吨）

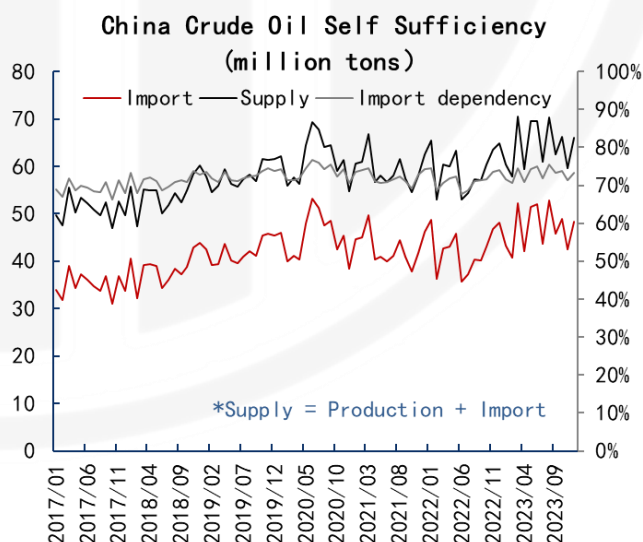
China crude oil production



数据来源：万得 中信期货研究所 Sources: Wind, CITICSF

图表4：中国原油自给率（供应、进口、进口依赖度）

China crude oil self sufficiency



数据来源：万得 中信期货研究所 Sources: Wind, CITICSF

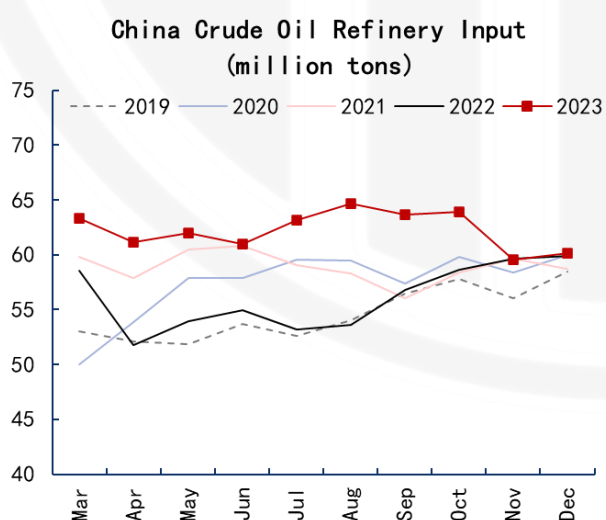
1.3 原油炼厂加工量 Crude oil refinery input

2023 年，中国优化疫情管控措施，居民出行有序恢复，线下活动增加，成品油消费回升，全年原油加工量同比大幅增加 9.6%。年初中国经济复苏预期带动汽柴油投机需求快速上行。年中原油加工量接连创历史高位。年末柴油工业需求增速放缓，出行高位汽油需求维持偏强，汽柴油需求表现分化。

In 2023, China's ease of pandemic control measures and orderly recovery of residents' travel led to increased offline activities and rebound of refined oil products consumption. As a result, crude oil processing volumes increased significantly by 9.6% year-on-year. Expectations of China's economic recovery at the beginning of the year led to a rapid upturn in speculative demand for gasoline and diesel. Crude oil processing volume hit record highs in the middle of the year. Growth rate of diesel industrial demand slowed down towards the end of the year, while gasoline demand remained strong, resulting in a divergence of gasoline and diesel wholesale price.

图表5：中国原油加工量（百万吨）

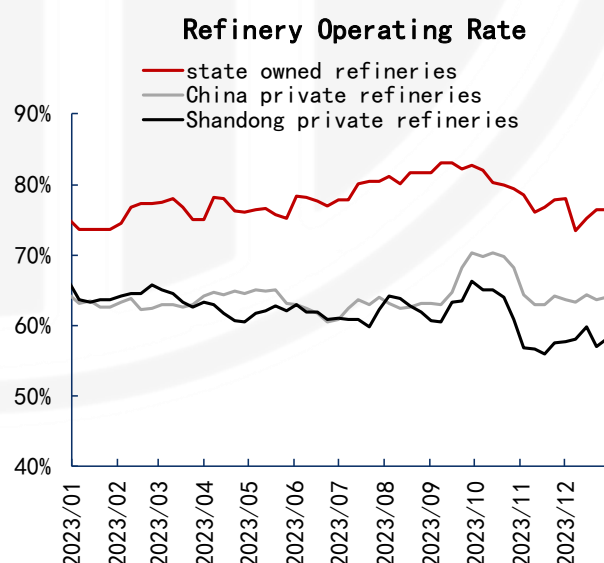
China refinery crude oil input



数据来源：万得 中信期货研究所 Sources: Wind, CITICSF

图表6：中国炼厂开工率

China refinery operating rate



数据来源：万得 中信期货研究所 Sources: Wind, CITICSF

1.4 原油库存变化 Crude oil inventory change

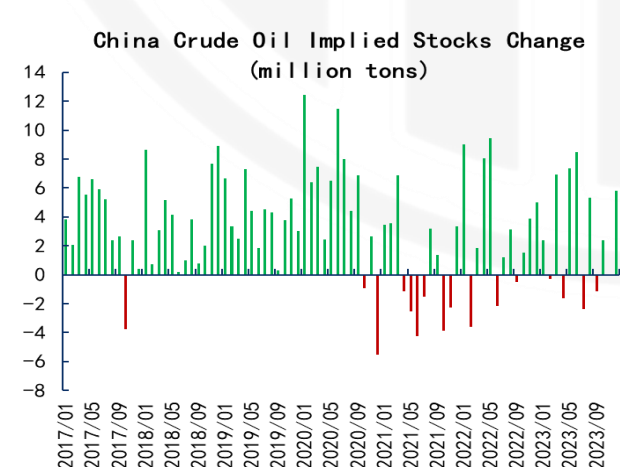
通过加工量、进出口量和产量数据，可计算出中国原油月度隐含库存变化量，库存可能包括储备库存和商业库存。2023 年中国隐含库存合计增加 3316 万吨。

近年来中国原油储备库存整体维持增长趋势，少数下降月份通常对应国内商业去库阶段。例如，2023 年 4 月/7 月/9 月隐含库存变化分别为 -165/-238/-116 万吨。结合原油港口商业库存和 INE SC 原油仓单，发现 7-9 月两者均出现阶段去库表现，支撑同期 SC 原油期货表现强于国际油价。

By analyzing the processing, import, export, and production data, we can calculate China monthly implied inventory changes for crude oil. This inventory may include both reserve and commercial stocks. In 2023, China's implied inventory increased by 33.16 million tons.

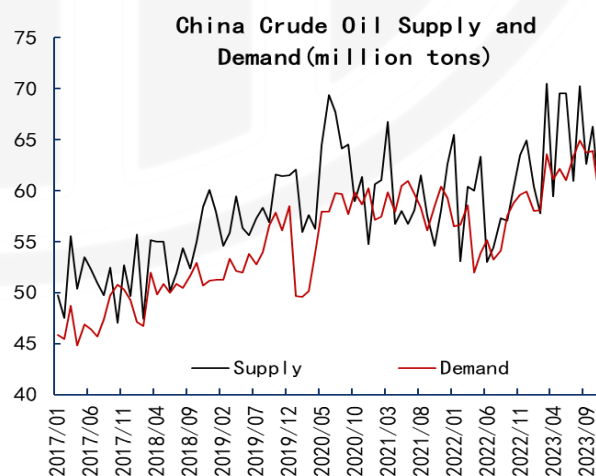
China crude oil reserves have generally increased in recent years, with occasional monthly decline usually corresponds to commercial de-stocking. For instance, in April, July, and September 2023, the implied stock changes were -165, -238, and -116 million tons, respectively. In July-September, both commercial stocks at crude oil commercial ports and INE SC crude oil warehouse receipts showed a de-stocking trend. This supported the stronger performance of SC crude oil futures compared to international oil prices during the same period.

图表7：中国原油隐含库存变化（百万吨）
China crude oil implied stocks change



数据来源：万得 中信期货研究所 Sources: Wind, CITICSF

图表8：中国原油供需（百万吨）
China crude oil supply and demand



数据来源：万得 中信期货研究所 Sources: Wind, CITICSF

1.5 原油供需平衡表 Crude oil supply & demand balance

图表9：中国原油供需平衡表 China crude oil supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	1624	1658	1706	1742	1709	1818	1728	1807	1752	1731	1747	1687	1733	1720	1765
进口 Import	4520	4275	4236	4700	4202	5230	4221	5144	5204	4368	5279	4572	4896	4244	4836
出口 Export	14	22	17	12	4	27	0	16	12	24	23	13	0	9	9
加工量 Refinery Input Quantity	5620	5863	5632	6154	5803	6329	6114	6200	6095	6313	6469	6362	6393	5953	6011
隐含库存变化 Implied Stocks Change	510	48	292	276	104	692	-165	735	849	-238	533	-116	236	3	580
万桶/日 吨桶比: 7.33															
产量 Production	390	400	411	420	426	430	422	427	428	409	413	412	410	420	417
进口 Import	1086	1030	1021	1133	1045	1237	1031	1216	1272	1033	1248	1117	1158	1037	1144
出口 Export	3	5	4	3	1	6	0	4	3	6	6	3	0	2	2
加工量 Refinery Input Quantity	1351	1413	1357	1483	1446	1497	1494	1466	1489	1493	1530	1554	1512	1455	1421
隐含库存变化 Implied Stocks Change	123	12	70	67	24	164	-40	174	207	-56	126	-28	56	1	137
同比变化															
产量 Production	2.0%	2.1%	2.9%	2.1%	2.1%	2.7%	1.7%	2.9%	1.9%	1.1%	3.1%	0.4%	0.6%	2.5%	4.6%
进口 Import	7.3%	-5.4%	-0.9%	11.0%	-1.3%	22.4%	-1.9%	12.3%	45.4%	17.0%	30.9%	13.6%	13.5%	-9.1%	0.6%
加工量 Refinery Input Quantity	3.4%	4.3%	-3.9%	9.6%	2.7%	8.0%	18.0%	15.0%	11.0%	18.6%	20.6%	12.0%	9.1%	-0.1%	0.4%

数据来源：海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

2. 中国成品油 China Refined Oil Products

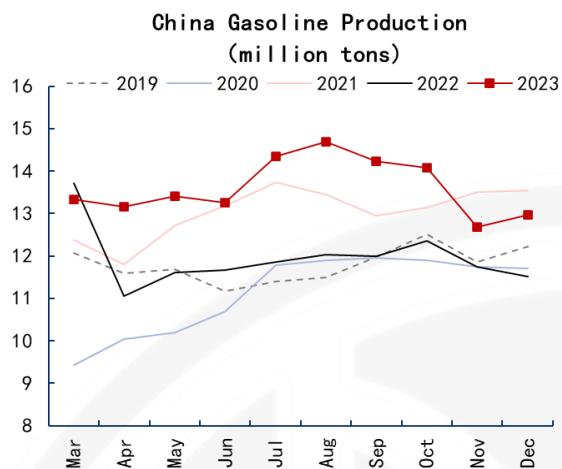
2.1 成品油产量 Oil products production

2022 年，中国疫情复发使成品油需求下降，汽柴油产量下降。2023 年，疫后居民出行恢复，带动成品油消费增加，产量相应回升。汽油、柴油、航煤产量分别同比增加+10.4%/+14.0%/+67.6%。

In 2022, the resurgence of pandemic in China led to a reduction in demand for refined oil products, resulting in a decline in gasoline and diesel oil production. In 2023, residents resumed travelling, resulting in an increase in consumption of refined oil products. As a result, gasoline, diesel, and jet fuel production increased by 10.4%, 14.0%, and 67.6% year-on-year, respectively.

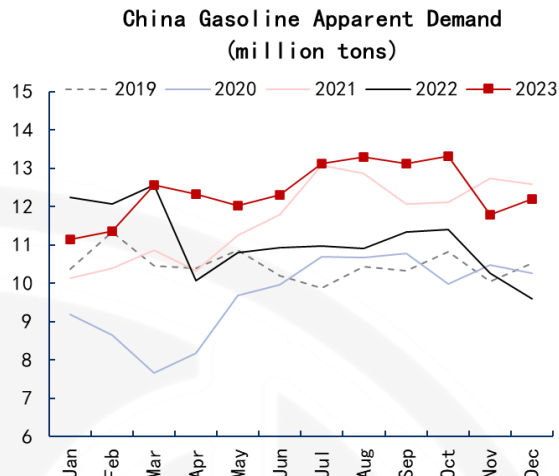
图表10: 中国汽油产量 (百万吨)

China gasoline production



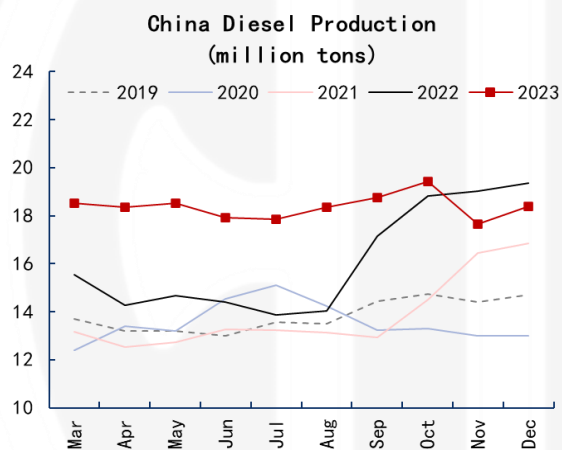
图表11: 中国汽油表观需求量 (百万吨)

China gasoline implied demand



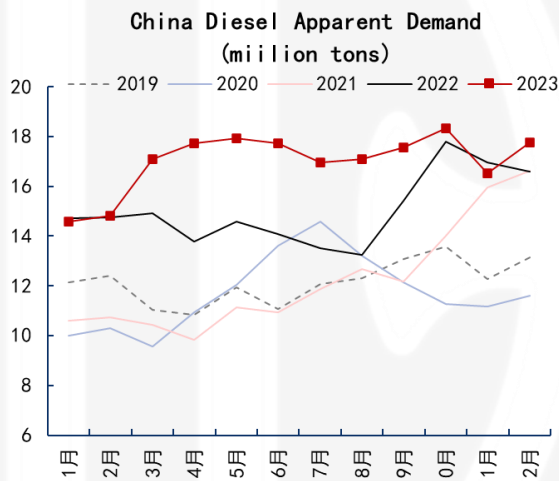
图表12: 中国柴油产量 (百万吨)

China diesel production



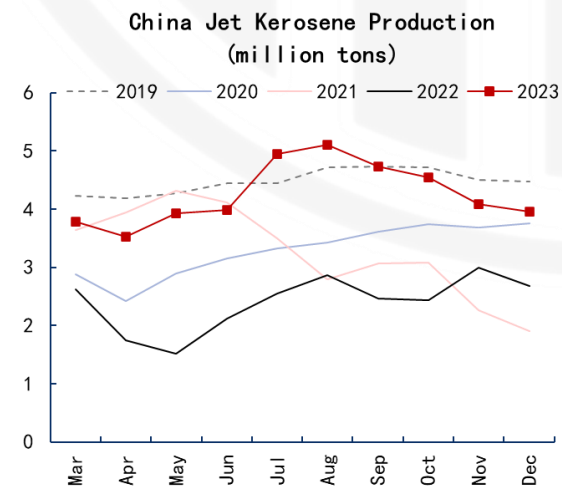
图表13: 中国柴油表观需求量 (百万吨)

China diesel implied demand



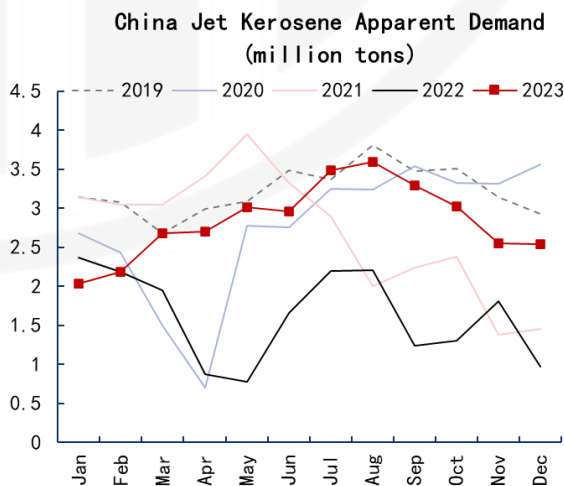
图表14: 中国航煤产量 (百万吨)

China jet kerosene production



图表15: 中国航煤表观需求量 (百万吨)

China jet kerosene implied demand



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

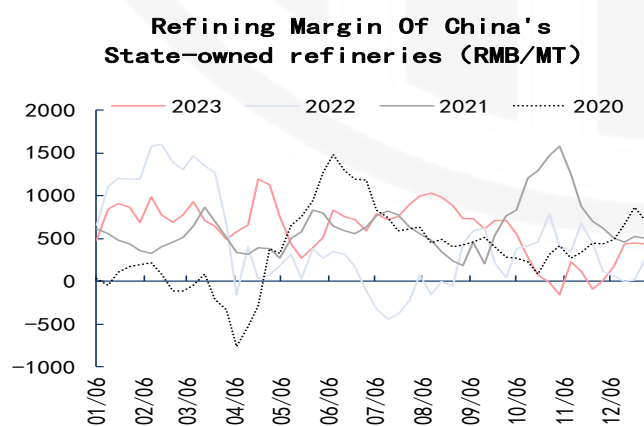
全年来看,大多数时间炼厂利润维持正值。主营炼厂一至三季度利润总体平稳,二、三季度利润同比高于 2022 年,四季度利润回落。前三季度,在居民出行增加、柴油投机需求较好、夏季成品油旺季的带动下,主营炼厂炼油利润较好。第四季度,工业放缓抑制柴油需求,汽油消费进入淡季,利润全年最差。民营炼厂一季度利润较好,部分来自汽柴油投机需求带动。三季度利润大幅回落,成本端对于原油价格上涨的对冲能力相对较弱。主营炼厂利润整体好于民营炼厂,或源于前者有更多的终端渠道,能够获取更高的零售利润。

Refinery profits remained positive for most of the year. For state-owned refineries, refining margins was high in the first three quarters, driven by increased residential travel, diesel speculative demand, and the summer peak season for refined products. In the fourth quarter, the industrial slowdown suppressed diesel demand, and gasoline consumption decreased seasonally in winter, resulting in the worst profits of the year.

For private refineries, profits were high in the first quarter, partially due to physical traders' speculative demand for gasoline and diesel. However, profits fell sharply in the third quarter due to weak hedging against rising crude oil prices. The profit of state-owned refineries is generally better than that of private refineries, which may be contributed by more terminal petrol stations and capability to obtain higher retail margins.

图表16: 中国主营炼厂利润 (元/公吨)

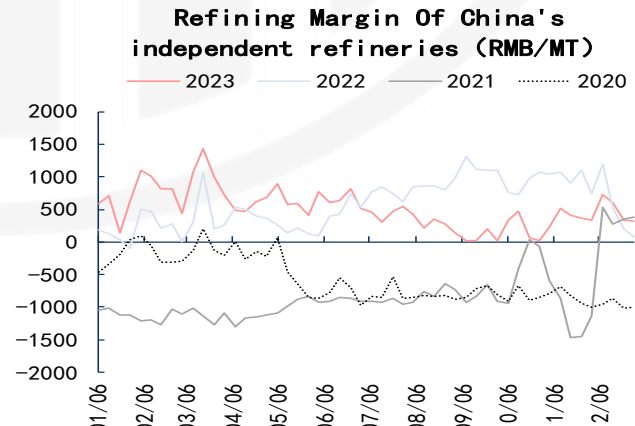
Refining Margin of China state-owned refineries



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

图表17: 中国民营炼厂利润 (元/公吨)

Refining Margin of China private refineries



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

2.2 成品油出口 Oil products export

中国成品油出口主要用于调节国内供需。2023 年中国成品油出口整体增加，但品种表现分化。汽油出口同比下降-2.2%，柴油和航煤出口同比增加 26%和 45%。

汽油方面，年初居民出口需求带动汽油需求快速增长后，全年维持高位运行。尽管年中以后汽油出口利润较好，但内需较好、社会库存较低导致可出口汽油资源较低，汽油出口小幅下降。

柴油方面，疫后复苏初期节奏分化，服务业相对强于制造业，国内柴油工业需求恢复慢于汽油。同时柴油出口利润较好，出口量较 2022 年大幅增加。

航煤方面，国内航班快速恢复至疫情前水平，但国际航班班次尚未完全恢复。上半年炼厂开工上行伴随航煤产量大幅增加，下半年通过出口渠道消化库存。

China refined oil products export are primarily used to balance domestic supply and demand. In 2023, China oil products export increased overall, but varied between different products. Gasoline exports decreased by 2.2% YoY, while diesel and jet fuel exports increased by 26% and 45% YoY.

The demand for gasoline experienced rapid growth at the beginning of the year, driven by residential travel demand, and remained high throughout the year. Although gasoline export margins improved in the latter half of the year, healthy domestic demand and low commercial inventories resulted in decreased exportable gasoline resources and a slight decline in gasoline export.

As for diesel, the recovery was faster in the service sector than in the manufacturing industry after the epidemic, leading to the slower recovery of diesel industrial demand than that of gasoline. Meanwhile, diesel export profits have improved, with a significant increase in export volume compared to 2022.

For jet kerosene, domestic flights have quickly recovered to pre-epidemic levels, but international flights have not yet fully resumed. The increase in refinery starts in the first half of the year led to a significant rise in jet fuel production, and inventories were depleted through export channels in the second half of the year.

全年成品油出口利润先跌后涨，下半年出口利润较好。年初在优化疫情管控和经济复苏预期支撑下，国内汽柴油价格表现偏强。年中以后，随着市场情绪变化和海外成品油价格强势表现，中国出口利润显著改善。

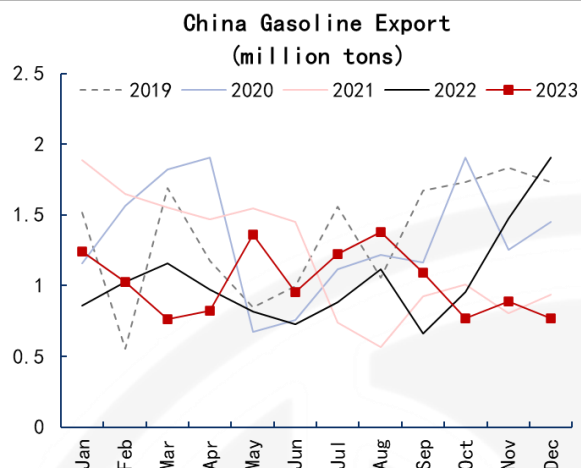
The export profit of refined oil products fluctuated throughout the year, with the second half higher than the first half. Domestic diesel oil prices performed strongly at the beginning of the year, supported by the optimization of epidemic control and the expectation of economic recovery. China's export profit improved significantly in the latter half of the year due to the change in domestic market sentiment and strong performance of overseas refined oil prices.

2022 年地缘冲突推升国际油价高位，导致供应短缺风险上行。为提高国内油品供应安全，控制通胀压力，对成品油出口配额大幅下降。2023 年，出于保供国内市场 and 有效疏通国内成品油资源去向的双重考虑，成品油出口配额同比增加 7% 至 3900 万吨。

Geopolitical conflicts in 2022 resulted in higher international oil prices, creating a risk of supply shortages. To enhance the security of domestic oil supply and control domestic inflationary pressure, the export quota for refined oil products was significantly reduced. In 2023, to ensure a steady supply to the domestic market and effectively balance domestic refined oil resources, the export quota for refined oil products increased by 7% year-on-year to 39 million tons.

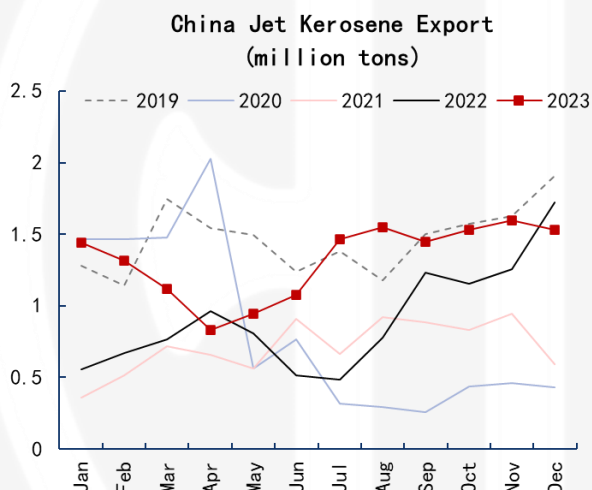
图表18: 中国汽油出口量 (百万吨)

China gasoline export



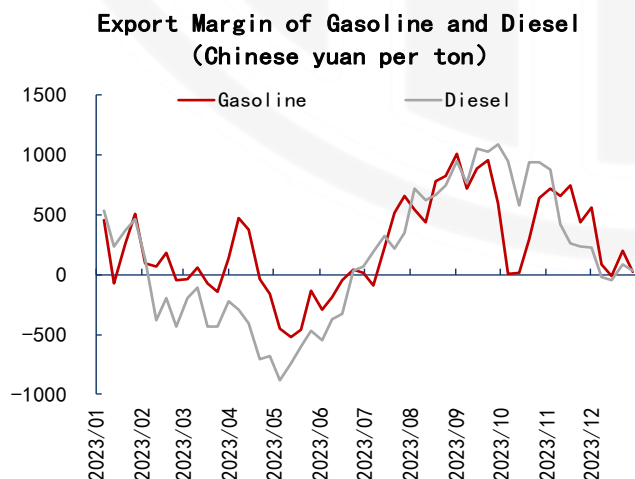
图表20: 中国航煤出口量 (百万吨)

China jet kerosene export



图表22: 中国汽柴油出口利润 (元/吨)

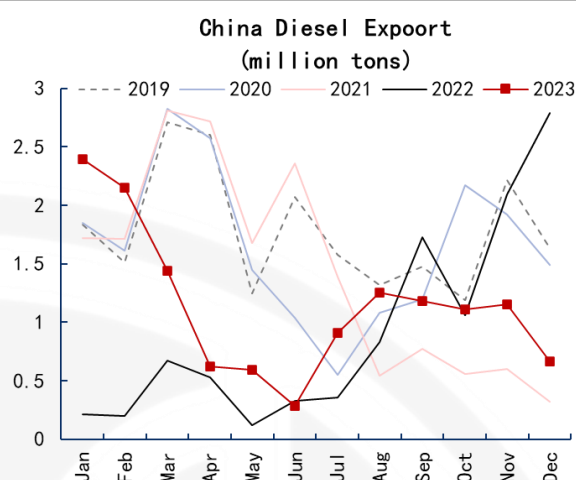
China oil products export margin



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

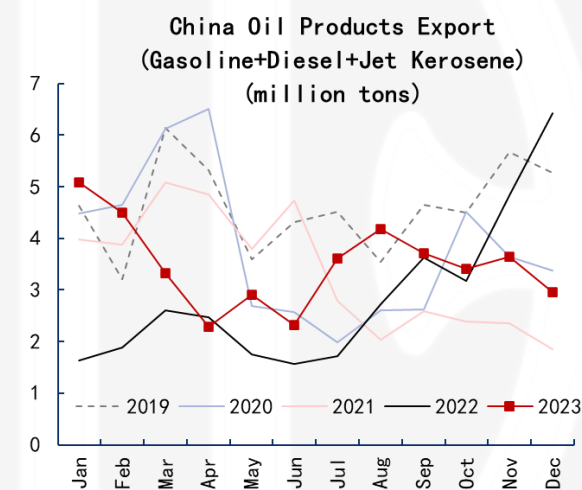
图表19: 中国柴油出口量 (百万吨)

China diesel export



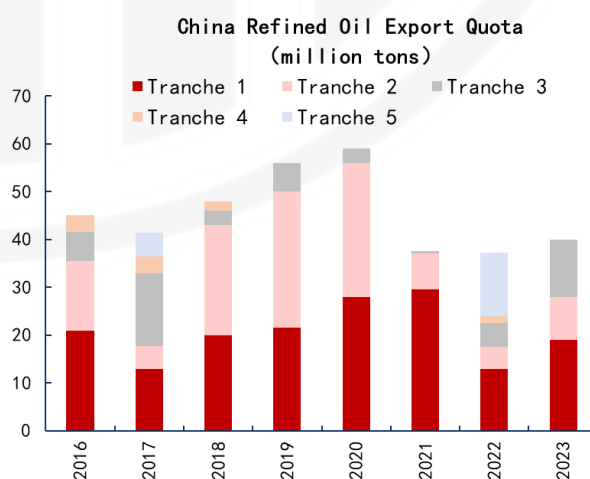
图表21: 中国汽柴煤总出口 (百万吨)

Oil products export (gasoline+diesel+jet kerosene)



图表23: 中国成品油出口配额 (百万吨)

China oil products export quota



数据来源: 万得 中信期货研究所 Sources: Wind, CITICSF

2.3 成品油供需平衡表 Oil products supply & demand balance

图表24: 中国汽油供需平衡表 China gasoline supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	1098	1288	1211	1341	1238	1333	1315	1341	1326	1435	1469	1423	1408	1269	1296
进口 Import	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0
出口 Export	133	121	105	102	113	76	82	136	95	122	138	109	77	89	77
表观需求 Apparent Demand	968	1170	1107	1239	1125	1257	1233	1204	1231	1313	1331	1314	1332	1180	1219
万桶/日 吨桶比: 8.5															
产量 Production	306	360	339	375	358	366	373	368	376	394	403	403	386	360	355
进口 Import	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
出口 Export	37	34	29	29	33	21	23	37	27	34	38	31	21	25	21
表观需求 Apparent Demand	270	327	309	346	325	345	349	330	349	360	365	372	365	334	334
同比变化															
产量 Production	-6.7%	17.4%	-6.0%	10.4%	-5.5%	-2.8%	19.0%	15.5%	13.7%	21.1%	22.0%	18.6%	13.9%	8.1%	12.6%
出口 Export	-2.3%	-9.1%	-13.6%	-2.2%	20.1%	-34.1%	-15.6%	67.2%	30.4%	39.1%	23.7%	64.9%	-19.7%	-39.9%	-59.8%
表观需求 Apparent Demand	-7.5%	20.6%	-5.0%	11.6%	-7.5%	0.0%	22.3%	11.5%	12.5%	19.6%	21.8%	15.9%	16.8%	15.0%	26.9%
收率 Yield															
收率 Yield	19.5%	22.0%	21.5%	21.8%	21.3%	21.1%	21.5%	21.6%	21.8%	22.7%	22.7%	22.4%	22.0%	21.3%	21.6%

数据来源: 海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

图表25: 中国柴油供需平衡表 China diesel supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	1325	1361	1594	1814	1696	1854	1835	1851	1792	1785	1835	1874	1944	1765	1840
进口 Import	10	6	4	1	0	0	0	0	8	0	0	0	0	4	1
出口 Export	165	143	91	115	227	144	62	60	29	91	126	118	111	116	67
表观需求 Apparent Demand	1171	1224	1506	1700	1469	1709	1772	1791	1771	1694	1710	1756	1833	1654	1774
万桶/日 吨桶比: 7.45															
产量 Production	324	333	390	444	429	445	456	445	445	429	441	465	467	438	442
进口 Import	2	2	1	0	0	0	0	0	2	0	0	0	0	1	0
出口 Export	40	35	22	28	57	35	15	14	7	22	30	29	27	29	16
表观需求 Apparent Demand	286	300	369	416	372	411	440	430	440	407	411	436	441	411	426
同比变化															
产量 Production	-4.4%	2.7%	17.1%	14.0%	14.0%	19.3%	28.6%	26.1%	24.6%	28.7%	30.7%	9.3%	3.2%	-7.2%	-4.9%
出口 Export	-7.6%	-12.9%	-36.5%	26.1%	1007.0%	113.9%	18.2%	387.1%	-12.3%	152.9%	51.3%	-31.7%	4.4%	-44.8%	-76.0%
表观需求 Apparent Demand	-3.8%	4.6%	22.8%	13.1%	-0.4%	14.6%	28.5%	22.8%	25.7%	25.3%	29.1%	13.8%	3.0%	-2.4%	7.0%
收率 Yield															
收率 Yield	23.6%	23.2%	28.3%	29.5%	29.2%	29.3%	30.0%	29.9%	29.4%	28.3%	28.4%	29.5%	30.4%	29.7%	30.6%

数据来源: 海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

图表26: 中国航煤供需平衡表 China jet kerosene supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	337	329	246	413	347	378	353	394	399	495	510	474	455	409	396
进口 Import	21	11	7	3	1	1	0	3	4	1	4	0	0	6	12
出口 Export	83	71	91	132	138	112	83	95	108	147	155	145	153	159	153
表观需求 Apparent Demand	276	269	162	284	211	268	270	301	296	349	360	329	302	255	254
万吨/日 吨桶比: 7.8															
产量 Production	86	84	63	106	92	95	92	99	104	124	128	123	114	106	100
进口 Import	5	3	2	1	0	0	0	1	1	0	1	0	0	1	3
出口 Export	21	18	23	34	36	28	22	24	28	37	39	38	38	41	38
表观需求 Apparent Demand	70	69	42	73	56	67	70	76	77	88	90	86	76	66	64
同比变化															
产量 Production	-23.2%	-2.6%	-25.2%	67.6%	24.8%	44.0%	101.9%	158.5%	88.6%	93.7%	78.0%	92.1%	86.9%	36.3%	47.8%
出口 Export	-43.4%	-14.2%	27.4%	45.3%	124.7%	45.6%	-13.6%	17.5%	108.9%	204.4%	98.6%	17.6%	32.1%	27.1%	-11.1%
表观需求 Apparent Demand	-14.5%	-2.5%	-39.4%	74.3%	-7.4%	37.3%	208.5%	286.8%	78.8%	58.8%	63.3%	166.1%	131.2%	40.8%	163.1%
收率 Yield															
收率 Yield	6.0%	5.6%	4.4%	6.7%	6.0%	6.0%	5.8%	6.3%	6.5%	7.8%	7.9%	7.4%	7.1%	6.9%	6.6%

数据来源: 海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

图表27: 中国燃料油供需平衡表 China fuel oil supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	284	363	423	449	414	515	496	438	447	441	455	487	449	434	399
进口 Import	105	115	109	267	170	267	273	311	326	286	180	267	314	285	352
出口 Export	132	163	156	165	147	205	143	194	205	163	163	159	152	137	162
表观需求 Apparent Demand	257	314	376	551	438	577	626	555	568	563	472	595	611	582	589
万吨/日 吨桶比: 6.35															
产量 Production	59	76	88	94	89	105	105	90	95	90	93	103	92	92	82
进口 Import	22	24	23	56	37	55	58	64	69	59	37	57	64	60	72
出口 Export	28	34	32	34	32	42	30	40	43	33	33	34	31	29	33
表观需求 Apparent Demand	53	66	78	115	95	118	133	114	120	115	97	126	125	123	121
同比变化															
产量 Production	37.9%	27.7%	16.6%	7.1%	1.4%	39.6%	34.9%	7.0%	-3.8%	-6.2%	-4.6%	6.5%	14.4%	11.2%	-4.4%
进口 Import	-15.0%	9.5%	-5.6%	142.5%	70.2%	141.6%	281.8%	199.9%	261.9%	267.2%	167.8%	157.0%	116.6%	74.2%	88.6%
出口 Export	41.9%	23.7%	-4.8%	5.3%	-21.1%	8.0%	18.0%	15.0%	11.0%	18.6%	20.6%	12.0%	9.1%	-0.1%	0.4%
表观需求 Apparent Demand	8.0%	22.9%	18.8%	47.8%	35.6%	72.3%	101.8%	51.6%	41.9%	47.2%	36.4%	63.5%	46.9%	36.3%	21.8%
收率 Yield															
收率 Yield	5.1%	6.2%	7.5%	7.3%	7.1%	8.1%	8.1%	7.1%	7.3%	7.0%	7.0%	7.7%	7.0%	7.3%	6.6%

数据来源: 海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

图表28：中国石脑油供需平衡表 China naphtha supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	353	413	491	627	521	586	537	580	698	645	638	650	702	707	735
进口 Import	66	63	77	106	86	97	126	126	80	125	148	130	88	87	91
出口 Export	0	0	0	3	3	0	0	0	7	3	0	8	6	4	3
表观需求 Apparent Demand	418	476	568	730	604	683	663	707	771	767	786	771	784	791	823
万桶/日 吨桶比: 8.9															
产量 Production	103	121	144	183	158	168	159	167	207	185	183	193	202	210	211
进口 Import	19	19	23	31	26	28	37	36	24	36	42	38	25	26	26
出口 Export	0	0	0	1	1	0	0	0	2	1	0	2	2	1	1
表观需求 Apparent Demand	122	139	166	213	183	196	197	203	229	220	226	229	225	235	236
同比变化															
产量 Production	8.6%	17.0%	19.0%	37.3%	16.0%	33.2%	33.1%	43.4%	60.4%	54.6%	47.9%	30.4%	38.5%	39.0%	37.6%
进口 Import	12.3%	-3.5%	21.7%	37.2%	5.3%	131.1%	254.2%	96.3%	63.2%	130.7%	62.9%	27.0%	0.1%	-23.8%	-25.1%
表观需求 Apparent Demand	12.5%	13.9%	12.2%	36.8%	13.8%	41.8%	51.0%	50.6%	60.4%	62.7%	50.7%	28.6%	31.7%	26.9%	25.6%
收率 Yield															
收率 Yield	6.3%	7.0%	8.7%	10.2%	9.0%	9.3%	8.8%	9.4%	11.5%	10.2%	9.9%	10.2%	11.0%	11.9%	12.2%

数据来源：海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

图表29：中国液化石油气供需平衡表 China LPG supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	371	396	406	431	402	434	443	452	419	432	443	439	446	415	443
进口 Import	3	3	4	268	204	204	273	328	324	319	286	317	261	254	246
出口 Export	0	0	0	8	8	8	8	7	7	7	8	7	8	7	9
表观需求 Apparent Demand	373	399	409	691	599	630	707	773	736	744	720	749	699	663	679
万桶/日 吨桶比: 12.41															
产量 Production	151	162	165	176	170	174	183	181	173	173	177	182	178	172	177
进口 Import	1	1	2	109	86	82	113	131	134	128	114	131	105	105	98
出口 Export	0	0	0	3	3	3	3	3	3	3	3	3	3	3	4
表观需求 Apparent Demand	152	163	167	282	252	252	293	310	304	298	288	310	280	274	272
同比变化															
产量 Production	7.6%	6.9%	2.3%	7.2%	2.8%	1.1%	15.5%	6.4%	2.1%	-1.4%	14.5%	10.1%	8.1%	7.6%	19.9%
进口 Import	-34.1%	36.8%	8.7%	21.0%	4.6%	-6.2%	38.2%	55.2%	32.8%	50.4%	32.8%	13.1%	21.0%	7.3%	2.3%
表观需求 Apparent Demand	4.8%	12.3%	4.9%	12.2%	3.2%	-1.3%	23.4%	23.0%	13.6%	15.6%	21.2%	11.5%	12.6%	7.7%	13.1%
收率 Yield															
收率 Yield	6.6%	6.8%	7.2%	7.0%	6.9%	6.9%	7.2%	7.3%	6.9%	6.8%	6.8%	6.9%	7.0%	7.0%	7.4%

数据来源：海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

图表30：中国沥青供需平衡表 China Bitumen supply and balance sheet

	2020	2021	2022	2023年1-12月	2023年1-2月	2023/03	2023/04	2023/05	2023/06	2023/07	2023/08	2023/09	2023/10	2023/11	2023/12
万吨/月															
产量 Production	523	463	321	319	254	324	324	334	324	336	353	345	336	350	289
进口 Import	40	27	24	25	25	24	35	30	26	23	30	27	21	23	13
出口 Export	5	5	5	5	4	5	4	5	3	9	3	4	5	5	6
表观需求 Apparent Demand	558	485	341	339	274	344	356	359	347	351	381	367	351	368	296
万吨/日 吨桶比: 6.6															
产量 Production	113	100	70	69	57	69	71	71	71	72	75	76	71	77	62
进口 Import	9	6	5	5	6	5	8	6	6	5	6	6	4	5	3
出口 Export	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1
表观需求 Apparent Demand	121	105	74	74	62	73	78	76	76	75	81	81	75	81	63
同比变化															
产量 Production	24.6%	-11.6%	-30.7%	-1.3%	-20.9%	-5.4%	0.0%	0.4%	6.0%	6.9%	3.9%	4.0%	4.2%	10.8%	-4.0%
进口 Import	11.2%	-32.7%	-8.6%	3.5%	-1.2%	-4.4%	51.7%	46.8%	6.9%	42.1%	6.5%	-8.9%	-12.8%	-19.6%	-40.4%
出口 Export	-13.5%	-2.6%	2.0%	1.8%	-14.5%	-24.3%	-25.4%	-33.0%	-37.5%	208.0%	-22.7%	-7.3%	171.7%	14.0%	9.4%
表观需求 Apparent Demand	22.8%	-11.3%	-29.2%	-1.0%	-19.5%	-5.0%	3.8%	3.8%	6.7%	6.9%	4.4%	3.1%	2.0%	8.2%	-6.7%
收率 Yield															
收率 Yield	9.3%	7.9%	5.7%	5.2%	4.4%	5.1%	5.3%	5.4%	5.3%	5.3%	5.5%	5.4%	5.3%	5.9%	4.8%

数据来源：海关总署 国家统计局 中信期货研究所 Source: China Customs, National Bureau of Statistics, CITICSF

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