

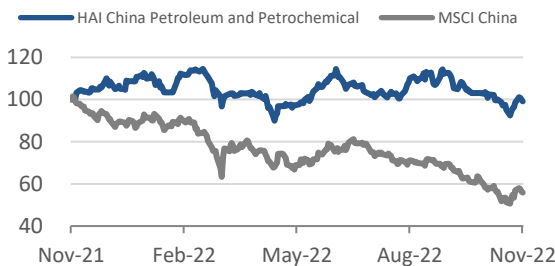
中国石油石化 China Petroleum and Petrochemical

石化行业周报：国内油系针状焦原料受限，受益锂电池行业发展

Weekly Report: Domestic needle coke raw materials limited, benefiting from the development of lithium battery industry

观点聚焦 Investment Focus

股票名称	评级	股票名称	评级
中国石油	Outperform	华润材料	Outperform
中国石化	Outperform	新凤鸣	Outperform
中国海油	Outperform	九丰能源	Outperform
荣盛石化	Outperform	东华能源	Outperform
恒力石化	Outperform	海优新材	Outperform
广汇能源	Outperform	华锦股份	Outperform
中海油服	Outperform	维远股份	Outperform
东方盛虹	Outperform	滨化股份	Outperform
新奥股份	Outperform	卓越新能	Outperform
卫星化学	Outperform	卓然股份	Outperform
桐昆股份	Outperform	德美化工	Outperform
上海石化	Outperform	蒙泰高新	Outperform
纳微科技	Outperform	鹿山新材	Outperform
齐翔腾达	Outperform	和顺科技	Outperform
石大胜华	Outperform		
中油工程	Outperform		



资料来源: Factset, HTI

Related Reports

石化行业周报：石化行业 2022 三季度总结及基金持仓分析（Weekly Report: Petrochemical Industry 3Q22 Report Summary and Fund Position Analysis）（6 Nov 2022）

石化行业周报：卫材热熔胶有望实现国产替代（Weekly report: Eisai hot melt adhesive is expected to achieve domestic substitution）（30 Oct 2022）

石化行业周报：POE，国产化进程提速，光伏胶膜需求提供新动能（Weekly Report: POE, The Localization Process is Accelerated, and the Demand for Photovoltaic Adhesive Film Provides New Energy）（23 Oct 2022）

(Please see APPENDIX 1 for English summary)

- **核心观点：**针状焦应用于锂电负极和石墨电极两个领域，2017-2021 年受益于锂电行业景气，需求从 22.76 万吨上升至 130.94 万吨，CAGR=55%。其中中国产量达到 108.39 万吨，对海外进口依存度较低。针状焦生产可分为油系和煤系两种路线，目前中国两种工艺路线产能规模相当，由于中国原油含硫量较高，适合生产针状焦的低硫油较少，未来油系针状焦的生产受到限制。
- **针状焦应用于锂电负极和石墨电极两个领域。**根据中国科学院山西煤炭化学研究所，针状焦是 20 世纪 70 年代炭素材料中大力发展的优质品种，属于人造石墨，具有低热膨胀系数、低空隙度、低硫、低灰分、低金属含量、高导电率及易石墨化等一系列优点。其石墨化制品化学稳定性好，耐腐蚀、导热率高、低温和高温时机械强度良好。根据百川盈孚，针状焦分为生焦和熟焦，其中生焦主要用于生产负极材料，下游为新能源汽车，应用占比 64%；熟焦主要用于生产石墨电极，下游为钢铁冶炼行业，应用占比 36%。
- **针状焦生产分为油系和煤系两种路线，中国产能规模相当。**根据中国科学院山西煤炭化学研究所，根据原料路线的不同，针状焦分为油系和煤系两种，其生产方法有一定差异。油系针状焦生产方法由美国在上世纪 50 年代后期开发，以热裂化渣油和催化裂化澄清油等石油加工厂重质馏分油为原料，经延迟焦化和煅烧等工艺过程制得油系针状焦。煤系针状焦生产方法由日本新日铁和三菱化成公司 1979 年开发，该法以煤炼焦副产品煤焦油沥青为原料，经原料预处理、延迟焦化和煅烧 3 个工艺过程制得煤系针状焦。根据百川盈孚，2022 年至今中国油系和煤系针状焦产能规模相当，其中煤系针状焦产能约为 120 万吨，油系针状焦产能约为 152 万吨。
- **中国针状焦需求超过 100 万吨，可基本保证自给自足。**由于下游需求强劲，2017 年以来中国针状焦产量和表观消费量大幅增长。根据百川盈孚，2017 年中国针状焦产量 15.12 万吨，表观消费量 22.76 万吨，进口量 7.64 万吨。2021 年中国针状焦产量达到 108.39 万吨，2017-2022 CAGR=64%；表观消费量 130.94 万吨，2017-2021 CAGR=55%；进口量仅 22.55 万吨。
- **中国原油含硫量较高，限制油系针状焦生产。**根据沥青基碳材料搜狐公众号，石油主要成分是脂肪烃，芳香烃含量很少，由于长期储存在地下以及在加工过程中使用各种催化剂，使得石油重油中含有一定的杂质元素，这些都对针状焦生产不利，因此，必须对针状焦原料进行选择和处理。首先选择芳香烃含量高、含硫低的重质油，再除去其中的杂质。我国加工的原油大部分属于高硫原油，适合生产针状焦的低硫油较少，且在炼油过程中携带到重质油当中的催化剂粉末很难去除干净。

- **针状焦原材料重芳烃价差持续扩大。**根据 wind，2022 年 8 月 1 日，重芳烃-渣油价差为 450 元/吨，2022 年 11 月 10 日，重芳烃-渣油价差已上升至 1170 元/吨。价差扩大主要由于重芳烃与渣油价格走势发生背离。8 月 1 日-11 月 10 日，重芳烃价格上涨 950 元/吨，而渣油价格仅上涨 230 元/吨。
- **投资建议：**针状焦用于锂电负极材料，未来市场空间广阔。中国油系针状焦生产由于油品含硫量问题受到限制，能够解决原料问题的企业有望受益，建议关注**博汇股份**等。

风险提示：原油价格大幅波动；下游需求下降；针状焦价格大幅波动等。

1. 建议关注：恒力石化、桐昆股份、荣盛石化、东方盛虹、卫星化学、中国海油、新奥股份

1.1 恒力石化

(1) 公司以“炼化+乙烯+煤化”为载体，强化上游大化工平台支撑，主要包括 2000 万吨/年炼油、150 万吨/年乙烯、500 万吨/年现代煤化工装置。(2) 加速新材料布局，打造第二成长曲线，稳步推进 160 万吨/年高性能树脂及相关配套工程、260 万吨/年功能性聚酯工程、30 万吨/年己二酸化工新材料配套项目及 16 亿平锂电隔膜项目等在建项目建设。

风险提示：原油价格下跌；产品价格下跌；项目进度不及预期。

1.2 桐昆股份

(1) 涤纶行业龙头，主业稳步扩张，提供业绩增量。截至 2021 年底，公司 PTA 产能 420 万吨/年，涤纶长丝产能约 860 万吨/年。根据公司现有项目规划，远期公司 PTA 产能将达到 920 万吨/年，长丝（短纤）产能 1400 万吨/年。(2) 参股大炼化。参股 20% 的浙石化，2022 年 1 月浙石化二期项目全面投产，有助于公司投资收益提升。

风险提示：原油价格下跌；产品价格下跌；长丝产能扩张不及预期；炼化项目进度不及预期。

1.3 荣盛石化

(1) 控股浙石化 51% 股权，一期 2000 万吨项目于 2019 年底全面投产，2020 年逐步释放效益；2022 年 1 月浙石化二期项目全面投产，贡献业绩增量。(2) 完善下游新材料布局，重点布局新能源和高端材料领域，包括 EVA、DMC、PC、ABS、 α 烯烃等。

风险提示：原油价格下跌；产品价格下跌；项目进度不及预期。

1.4 东方盛虹

(1) 在建 1600 万吨/年大炼化项目，项目单线产能国内最大，全产业链布局进一步完善。(2) 收购斯尔邦 100% 股权，斯尔邦是国内最大的光伏级 EVA 生产商，受益光伏快速发展。(3) “十四五”加强新能源新材料布局，规划百万吨级 EVA 光伏新能源材料项目、百万吨级丙烯腈新材料、百万吨级绿色可降解材料项目。

(4) 长丝产能稳步扩张。2021 年底，公司 PTA 产能 390 万吨/年，差别化纤维产能 260 万吨/年（DTY 为主，包括 30 万吨/年再生纤维），在建及拟建纤维项目 245 万吨/年（包括 25 万吨/年再生纤维产能）。

风险提示：原油价格下跌；产品价格下跌；项目进度不及预期。

1.5 卫星化学

(1) 轻质化龙头，工艺具有成本低、排放低、副产氢等优势。(2) 连云港石化 C2 项目一阶段投产，逐步释放业绩。(3) 在建及储备项目提供未来增长动能，包括 C2 项目二阶段工程（125 万吨/年乙烷裂解装置、40 万吨/年聚乙烯、73 万吨/年环氧乙烷、60 万吨/年苯乙烯）、绿色化学新材料产业园项目（20 万吨/年乙醇胺、80 万吨/年聚苯乙烯、10 万吨/年 α -烯烃与配套 POE、75 万吨/年碳酸酯）、平湖基地新能源新材料一体化项目（年产 80 万吨 PDH、80 万吨丁辛醇）等。

风险提示：产品价格大幅波动；项目进展不及预期等。

1.6 中国海油

(1) 维持较低桶油成本，1Q22 桶油成本 30.59 美元/桶。(2) 油气产量稳定增长，公司 2022-2024 年产量目标分别为 6.0-6.1 亿桶油当量、6.4-6.5 亿桶油当量、6.8-6.9 亿桶油当量，三年复合增速 6.3%。(3) 在获股东大会批准的前提下，公司计划 2022-2024 年全年股息支付率不低于 40%，全年股息绝对值不低于 0.7 港元/股（含税）。2022 年，公司计划在适当时机在股东大会授权范围内进行港股回购。

风险提示：原油价格大幅波动；公司油气增储上产进度不及预期。

1.7 新奥股份

(1) 天然气龙头企业，控股新奥能源 33% 的股权，受益天然气需求较快增长。(2) 拟注入舟山 LNG 接收站，接收站一、二期合计实际处理能力有望达到 800 万吨/年。

风险提示：天然气价格大幅波动；天然气消费增速不及预期。

2. 一周跟踪：上海石化，康普顿

2.1 上海石化

公司发布关于投资建设热电机组清洁提效改造工程项目的公告，拟投资建设 4 套 70 兆瓦高效燃煤供热机组，替代现有 425 兆瓦燃煤供热机组。本项目预计投入约 33.88 亿元，资金来源为公司自筹资金，项目建设期约为 3 年。

风险提示：原油价格波动、产品价格波动，在建项目不达预期。

2.2 康普顿

公司发布对外投资进展公告，公司控股子公司氢启科技的 CCM（三合一）涂布产线，膜电极封装检测自动化产线，双极板点胶产线，和燃料电池电堆自动装配产线今日已完成建设及竣工验收。膜电极封装检测自动化产线产能可达 100 万片/年；石墨双极板燃料电池电堆全自动生产线产能可达 5000 台/年。

风险提示：原油价格波动、产品价格波动。

3. 风险提示:

原油价格大幅波动；石化行业景气度下降；产品价格大幅波动。

APPENDIX 1

Summary

- Conclusion.** Needle coke is applied to lithium battery cathode and graphite electrode. Benefiting from the boom of lithium battery industry from 2017 to 2021, the demand increased from 0.23 million tons to 1.3 million tons, with CAGR=55%. China's output reached 1.08 million tons, and its dependence on overseas imports was low. The production of needle coke can be divided into two routes: oil series and coal series. The production capacity of the two process routes in China is equivalent currently. Due to the high sulfur content of crude oil in China, there is less low sulfur oil suitable for producing needle coke, and the production of oil series needle coke is limited in the future.
- Investment advice.** Needle coke is used as cathode material of lithium battery, with broad market space in the future. The production of oil series needle coke in China is limited due to the sulfur content of oil products. Enterprises that can solve the problem of raw materials are expected to benefit. We suggest to eyes on **Bohui Chemical Technology**.
- Risk warning:** The price of crude oil fluctuates significantly; Downstream demand fell back; The price of needle coke fluctuates greatly.

附录 APPENDIX

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海通在过去的12个月中从601857.CH, 0857.HK, 四川晶科能源有限公司, 江西一诺新材料有限公司及包头盛泰汽车零部件制造有限公司获得除投资银行服务以外之产品或服务的报酬。

Haitong has received compensation in the past 12 months for products or services other than investment banking from 601857.CH, 0857.HK, 四川晶科能源有限公司, 江西一诺新材料有限公司 and 包头盛泰汽车零部件制造有限公司.

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分析师股票评级

优于大市, 未来 12-18 个月内预期相对基准指数涨幅在 10%以上, 基准定义如下

中性, 未来 12-18 个月内预期相对基准指数变化不大, 基准定义如下。根据 FINRA/NYSE 的评级分布规则, 我们会将中性评级划入持有这一类别。

弱于大市, 未来 12-18 个月内预期相对基准指数跌幅在 10%以上, 基准定义如下

各地股票基准指数: 日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100, 美国 – SP500; 其他所有中国概念股 – MSCI China.

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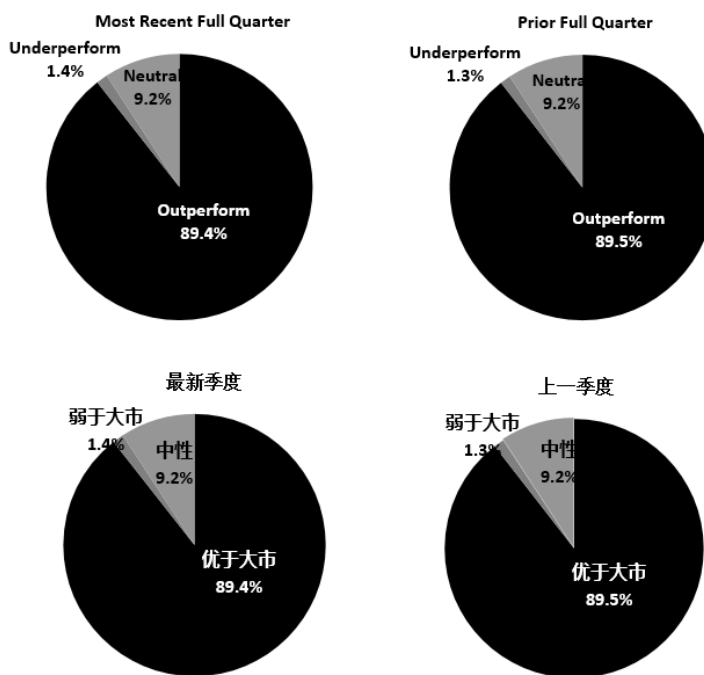
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Neutral: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

Underperform: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100, US – SP500; for all other China-concept stocks – MSCI China.

评级分布 Rating Distribution



截至 2022 年 9 月 30 日海通国际股票研究评级分布

	优于大市	中性 (持有)	弱于大市
海通国际股票研究覆盖率	89.4%	9.2%	1.4%
投资银行客户*	5.5%	6.8%	4.5%

*在每个评级类别里投资银行客户所占的百分比。

上述分布中的买入，中性和卖出分别对应我们当前优于大市，中性和落后大市评级。
只有根据 FINRA/NYSE 的评级分布规则，我们才将中性评级划入持有这一类别。请注意在上表中不包含非评级的股票。

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买入，未来 12-18 个月内预期相对基准指数涨幅在 10%以上，基准定义如下

中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

卖出，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100; 其他所有中国概念股 – MSCI China.

Haitong International Equity Research Ratings Distribution, as of Sep 30, 2022

	Outperform	Neutral (hold)	Underperform
HTI Equity Research Coverage	89.4%	9.2%	1.4%
IB clients*	5.5%	6.8%	4.5%

*Percentage of investment banking clients in each rating category.

BUY, Neutral, and SELL in the above distribution correspond to our current ratings of Outperform, Neutral, and Underperform.

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SELL: The stock's total return over the next 12-18 months is expected to be below the return of its relevant broad market benchmark, as indicated below.

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