

2024年金属投资策略：千磨万击还坚劲

2024 Metals Investment Strategy:

Though Thoroughly Tempered, Metals Remain Sturdy Still

吴旂婕 YiJie Wu, lisa.yj.wu@htisec.com

王曼琪 Manqi Wang, mq.wang@htisec.com

2024年2月7日

2023年，美联储停止加息、中国复苏不及预期，反复博弈下国际铜价全年反复震荡：

1月中国疫情政策转向，复苏预期旺盛，铜价快速上行。2月-4月中旬，中国复苏不及预期，美国加息预期升温，铜价震荡回落。4月下旬-5月，美国金融风险凸显，中国经济不及预期，铜价快速下跌。6-7月中国降息、政治局会议释放积极信号；美国CPI数据低于市场预期，加息预期降温，市场情绪好转，铜价回升。8月-10月国内外经济同步走弱，铜价震荡下行。11月-12月美国经济数据走弱，通胀预期下滑，市场对美联储货币政策预期逐步从停止加息转至明年大幅降息，叠加全球第二大铜矿巴拿马Cobre铜矿停产，秘鲁发生地震，供给风险又起，市场持续上行。



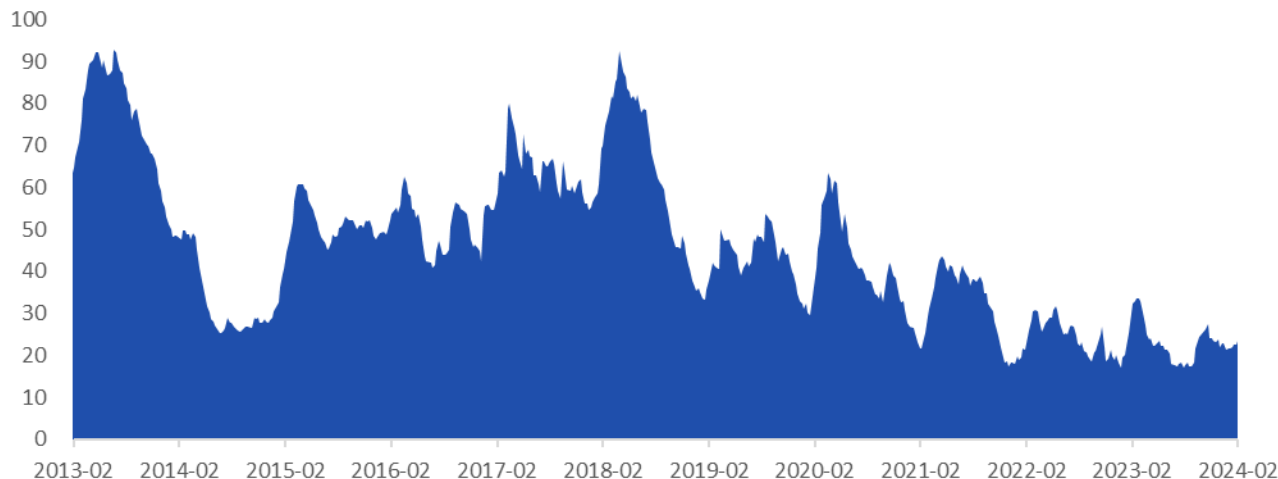
资料来源：Wind，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铜库存：处于历史低位，给予铜价支撑

近十年来，铜三地合计库存量于2018年3月达到高峰，超过90万吨，于2021年11月跌至最低点17.7万吨左右。从2018年起，总体上看铜库存呈下降趋势。截至2024年2月2日，LME+Comex+SHFE合计库存23.37万吨，低库存给予铜价支撑。

LME+COMEX+SHFE 铜库存合计（单位：万吨）

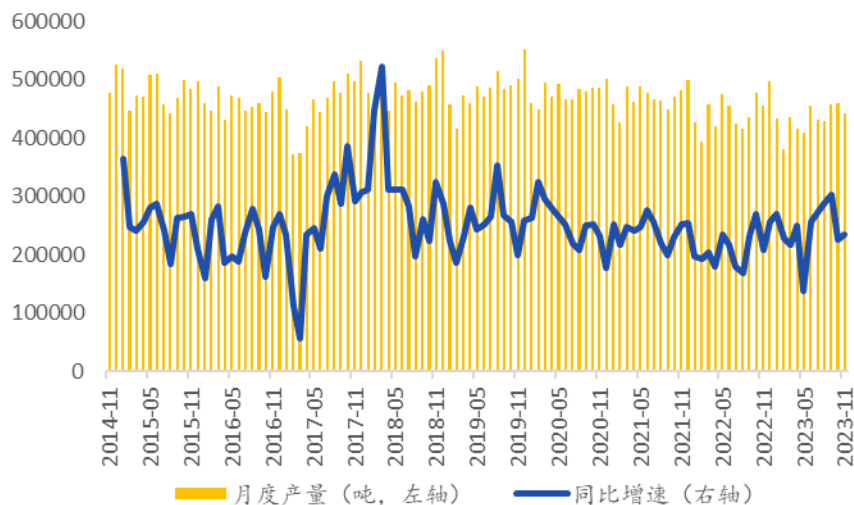


资料来源：Wind，海通国际

铜供给：主要产铜国生产情况

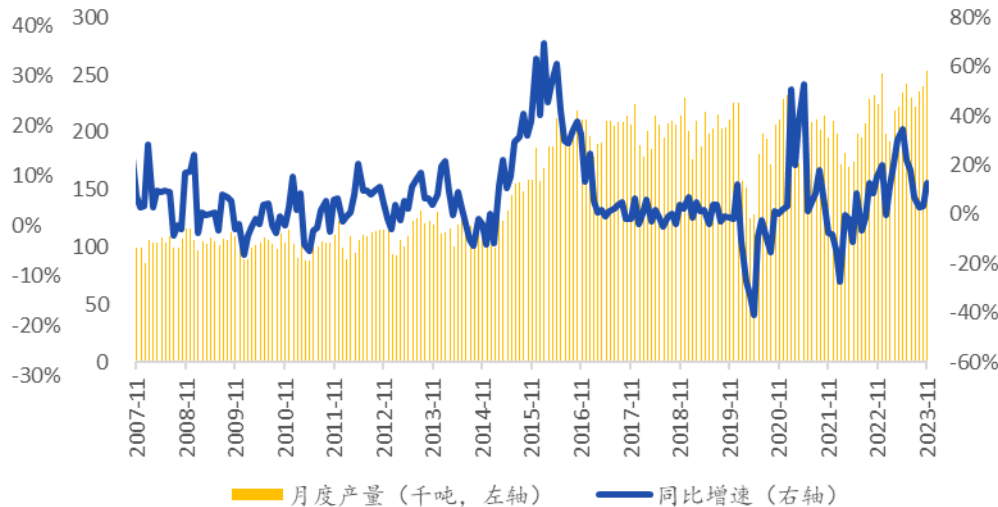
目前智利、秘鲁是全球第一、第二大产铜国。智利1-11月铜产量累计约475万吨，同比减少1.71%；秘鲁1-11月铜产量累计约249万吨，同比增加13.92%。据中国有色金属报，2022-2026年，全球铜矿产能预计增加318万吨，CAGR 2.74%，主要来自南美洲的智利和秘鲁，合计增加铜矿产能71万吨，铜冶炼产能基本呈同步增长态势。百川盈孚预计，2023年全球铜精矿预计产量高达2000万金属吨左右。

智利月度铜产量及同比增速



资料来源：智利铜委员会，海通国际

秘鲁月度铜产量及同比增速



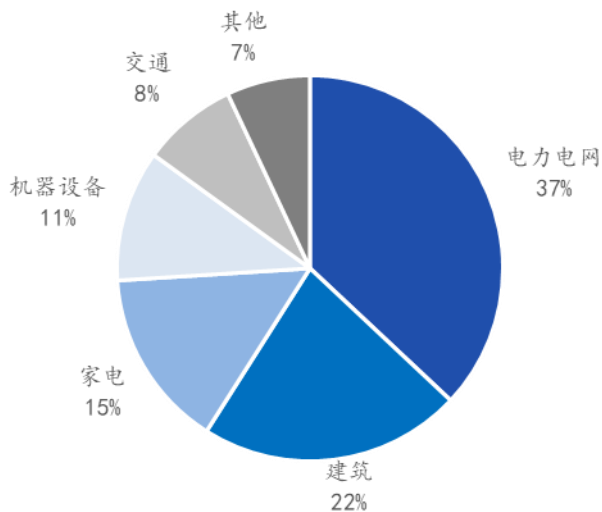
资料来源：全球经济指标（Trading Economics），海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铜需求：电力电网铜需求占比最高，新能源产业是铜需求新增长点

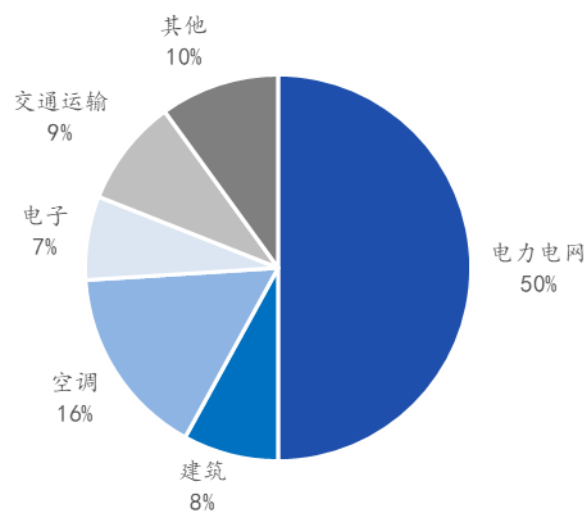
目前，**电力电网**是铜消费占比最大的领域。传统电网基建投资较为平稳，十四五期间电网投资向电网转型、能源升级、大力发展新能源等方向倾斜。高速铁路、城市轨道交通和电动汽车等基建工程项目，增加用铜需求。光伏和风电等装机需求将在未来持续带来较多铜消费。**CRU**预计，**至2030年全球总铜需求量将达到约3000万吨**，较2021年涨18%，年需求复合增长率约2%。

2021年全球铜需求结构



资料来源：Bloomberg，海通国际

2021年中国铜需求结构

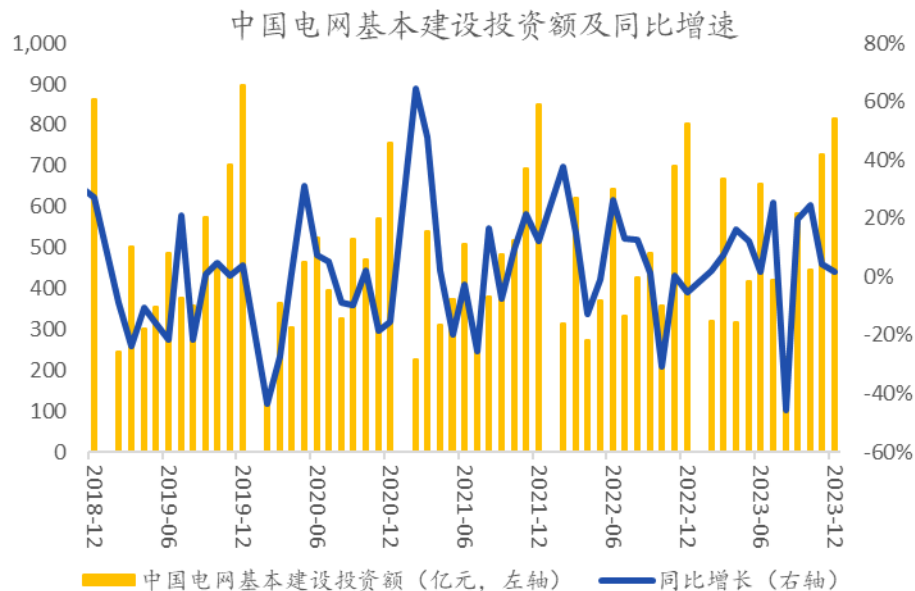
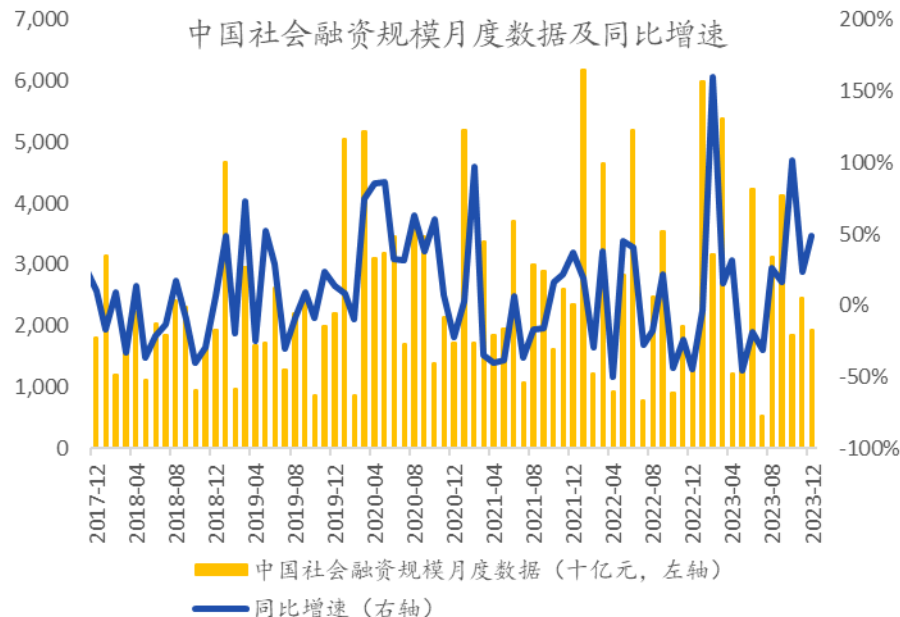


资料来源：Bloomberg，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铜需求：电网投资额增加，有望带动电力行业铜需求增加

2023年中国社会融资规模为35.59万亿元，同比上升11.17%。2023年中国电网基本建设投资额为5275亿元，同比上升5.4%。根据前瞻产业研究院数据，**电网每投资1亿元，可推动800-1000吨铜消费量。**



资料来源：Wind，海通国际

资料来源：Wind，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铜需求：新能源汽车发展提升用铜量

新能源领域铜需求量持续上涨成为支撑铜消费的重要领域，CRU预计，至2030年新能源用铜将占全球总用铜量的25%。中美欧电动车总销量：2023年12月中美欧电动车总计销量为161.5万辆，同比上升34.49%，环比上升14.00%。据乘联会数据，2023年全球新能源汽车销量为1428万辆，同比增长34%，新能源车渗透率达22%。据中汽协数据，2023年中国新能源汽车产销累计完成958.7万辆和949.5万辆，同比分别增长35.8%和37.9%。纯电动汽车单车用铜量接近燃油车的4倍，超80kg。

中美欧新能源车销量



资料来源：Wind, InsideEV, Clean technica, 海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铜：各大公司资源储量及规划产量

	权益资源量（万吨）	2023E自产铜（万吨）	2025E自产铜（万吨）
紫金矿业	7372	101	117
洛阳钼业	3207	33	46.7
铜陵有色	1056	7.6	14.6
云南铜业	336	6.2	6.4
西部矿业	625	8.4	11.9
江西铜业	1343	20	21
五矿资源	771	23.5	35.1
中国有色矿业	598	13	13.5
中国黄金国际	681	2	8.7

资料来源：公司数据，海通国际

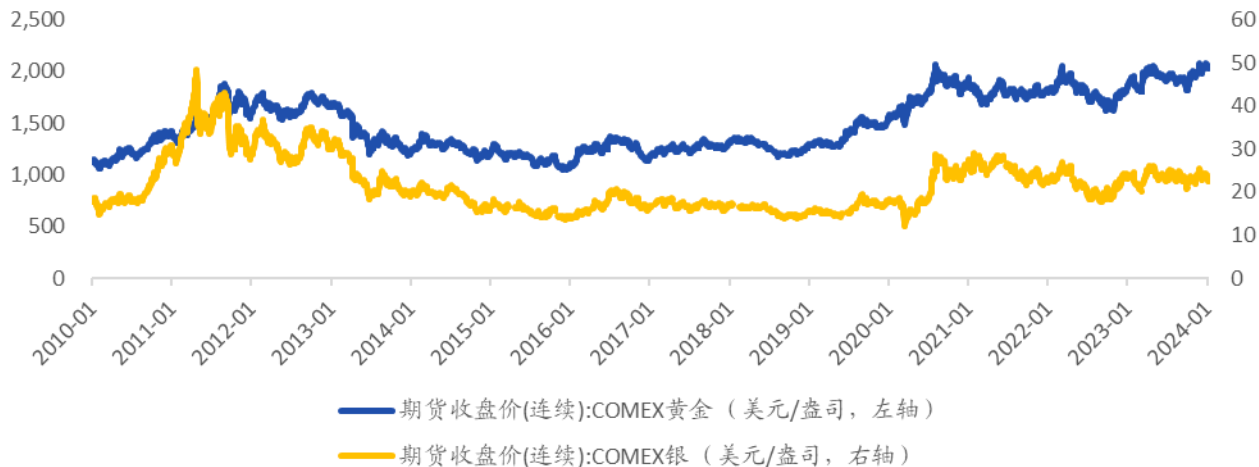
注：产量为海通国际金属团队预测数据。

注：紫金矿业产量为并表口径，其他均为权益口径

2022年11月初以来，由于全球资本市场动荡、美联储放缓加息预期和全球经济衰退预期上升以及各国央行加大黄金购买力度支撑了需求，黄金价格一路上涨。

2023年黄金整体走势以震荡上行为主。2023年开盘1826.35美元/盎司，年内最高2146.79美元/盎司，年内最低1804.5美元/盎司，年内最终收于2062.6美元/盎司。全年涨幅高达13.16%。

黄金、白银价格走势

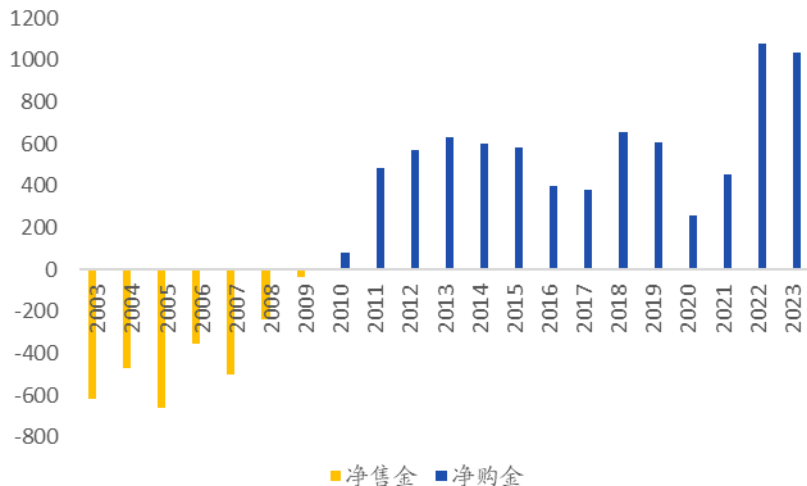


资料来源：Wind，海通国际

贵金属：央行购金需求仍保持高位

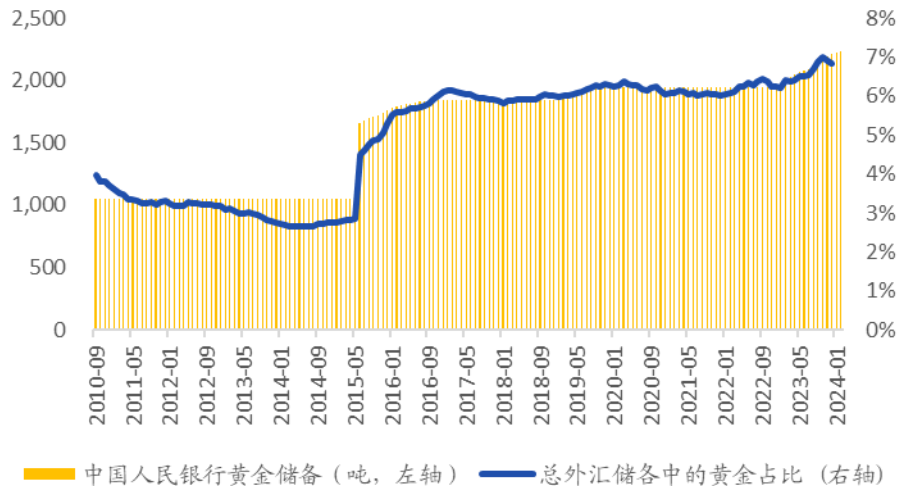
受地缘因素不确定性和全球经济情况影响，各国央行继续大力购买黄金。2022年全球央行购金需求达到1136吨，创下55年以来的新高，且连续第13年净增持黄金储备。据世界黄金协会，2023年全球央行购金量创历史第二高，达1037吨。

全球央行购金量（吨）



资料来源：世界黄金协会，海通国际

中国黄金储备及外汇占比



资料来源：中国人民银行，wind，海通国际

贵金属：各大公司权益储量和规划产量

黄金公司资源量及产量（吨）

	权益储量/资源量（吨）	2023E产量	2025E产量
紫金矿业	3117	67	90
山东黄金	1319	39.6	56
赤峰黄金	274	13	16
银泰黄金	137	6.8	6.8
招金矿业	954	12	14.8
湖南黄金	137	4	7
中金黄金	384	15.8	16
中国黄金国际	178	6	7.4

资料来源：公司数据，海通国际

注：权益储量是公开信息，底稿保留在海通国际。

注：紫金矿业产量为并表口径，其他均为权益量，均为海通国际金属团队预测数据。

白银公司资源量及产量（吨）

	截至2022年底权益资源量	2022年产量	2023E产量	2025E产量	备注
紫金矿业	14612	396	412	450	资源量包含伴生矿
盛达资源	3694	203	203	260	资源量包含伴生矿
银泰黄金	5311	151	151	151	-

资料来源：公司公告，海通国际

注：紫金矿业产量为并表口径，其他均为权益口径

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

2023年一季度，在供给端减产、需求端传统淡季以及海外加息加银行危机等因素影响下，铝价区间震荡；二季度，供给端贵州、广西等地区少量增产，6月下旬云南逐步开始复产，需求端进入传统需求旺季，铝价偏强震荡。9月末，国家频频发布宏观政策，极大的提振了市场情绪，现货铝价接连上涨。年末，电解铝价格高位后市场进入回落整理阶段。未来，伴随经济复苏与新能源汽车、光伏等领域的发展，市场信心恢复，铝价有望迎来上涨。

2005年至今铝价走势



资料来源: Wind, 海通国际

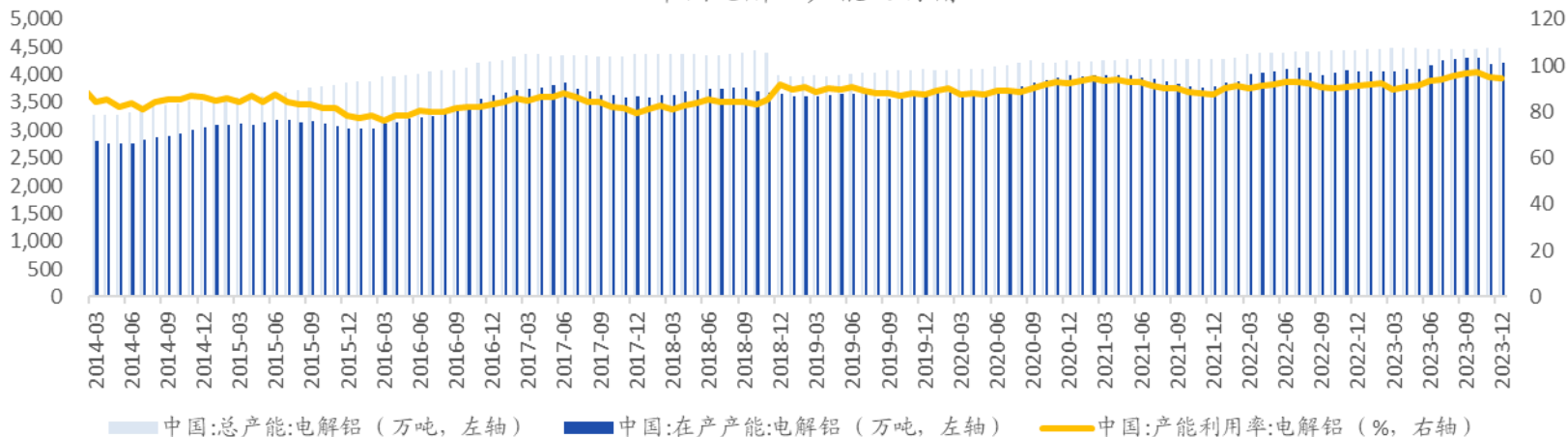
For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铝产能：国内电解铝产能与产能利用率创新高

电解铝开工率历史新高。电解铝曾长期被定义为产能过剩行业，行业开工率曾长期在85%附近。自2017年划定4500万吨产能上限后，国内电解铝产能缓慢增加。

据阿拉丁数据，截至2023年底，中国电解铝建成产能4481万吨/年，较2022年底增加36万吨；运行产能4477万吨/年，较2022年底增加150万吨；产能利用率达94.6%，比去年同期上升3.5个百分点。冶炼企业开工率很难达到100%，而95%的开工率已经说明供给端失去了弹性，即使给出更高的冶炼利润，也无法继续增产。

中国电解铝产能运行情况



资料来源：阿拉丁，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铝产能：电解铝减产情况梳理

受能源双控、自然灾害及政策等多因素扰动，2021年全国累计停产310万吨，2022年累计停产362万吨，2023年累计停产280万吨。

云南枯水期限电问题突出，电解铝减产。截至2023年底，云南电解铝总产能586万吨，占国内总产能的13%，运行产能464万吨，占国内总运行产能的11%。枯水期季节性限电减产与电解铝设备需稳定运行的矛盾突出，短期无法解决，供给端更加紧张。

2023年初云南、贵州电力短缺减产产能近110万吨；随着电力短缺的逐渐缓解，贵州、云南地区分别于2月、6月开始释放复产产能。随着11月到来，云南地区又遇到降水不足、电力短缺的情况，云南电解铝企业大幅减产产能超110万吨。

省份	企业	总产能(万吨)	原运行产能(万吨)	现运行产能(万吨)	已减产(万吨)	减产时间	或减产但未明确(万吨)
山东	山东魏桥铝电有限公司	562	530	500	30	2023年6月	
山东	山东南山铝业股份有限公司	85	73	58	15	2023年3月	10
贵州	遵义铝业股份有限公司	42	25	12	13	2023年1月	
贵州	贵州华仁新材料有限公司	50	25	12	13	2023年1月	
贵州	安顺市铝业有限公司	13.5	8	4	4	2023年1月	
贵州	贵州省六盘水双元铝业有限责任公司	15	10	10	0	2023年1月	
贵州	贵州兴仁登高新材料有限公司	50	37.5	25	12.5	2023年1月	
云南	云铝集团	310	227	184.8	42.2	2023年2月	
云南	云南神火铝业有限公司	90	72	54	18	2023年2月	
云南	云南其亚金属有限公司	35	28	21	7	2023年2月	
广西	广西田林百矿铝业有限公司	30	30	25	5	2023年3月	
贵州	安顺市铝业有限公司	13.5	4	0	4	2023年5月	
四川	四川启明星铝业有限责任公司	12.5	10	6.5	3.5	2023年7月	
云南	云铝集团	310	307	246	61	2023年11月	
云南	云南神火铝业有限公司	90	90	54	36	2023年11月	
云南	云南宏泰新型材料有限公司	203	150	140	10	2023年11月	
云南	云南其亚金属有限公司	35	24	18.5	5.5	2023年11月	
	合计				279.7		10

资料来源：百川盈孚，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

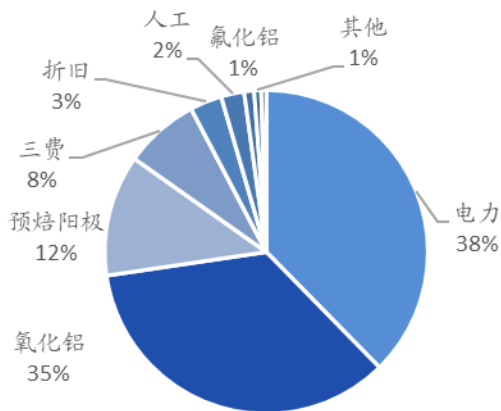
铝成本：煤炭、预焙阳极等价格大幅走低

2023年以来，随着电力、阳极和氧化铝等能源和原辅料价格的下滑，中国电解铝成本持续下降。根据安泰科数据，电解铝三大成本项包括电力、氧化铝和阳极，6月份在完全成本中的占比分别为 37.6%、35.0%和 12.1%；与2022年底相比，三大成本项分别下降了551元/吨、11元/吨和1284元/吨。

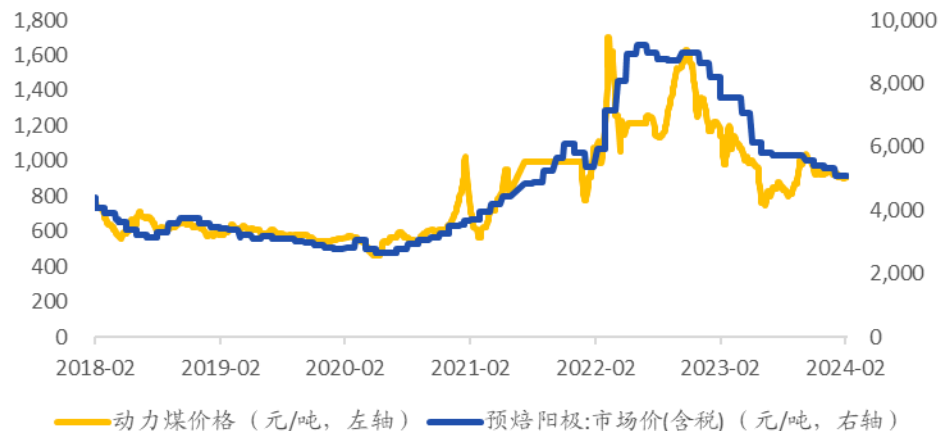
截至目前，中国电解铝自备电比例约 59%，网电比例约 41%，而煤炭价格的下滑导致铝企自备电价降低是致使2023年以来电解铝行业电力成本下降的主要原因。

据百川盈孚，2023年全年电解铝行业平均成本16536.54元/吨，较2022年同期17816.39元/吨减少1279.58元/吨，跌幅7.18%。

2023年中国电解铝完全成本构成



动力煤与预焙阳极价格



资料来源：安泰科，海通国际

资料来源：Wind，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

铝：电解铝公司产能及产量预测

目前电解铝企业产能布局已基本落地，我们预计未来产能保持稳定。

电解铝公司产能及产量预测

	电解铝产能 (万吨)	电解铝权益产能 (万吨)	氧化铝产能 (万吨)	氧化铝权益产能 (万吨)	2023年预计电解铝产量 (万吨)	2024年预计电解铝产量 (万吨)
云铝股份	305	264	180	180	255	255
神火股份	170	119	100	36	120	120
中国铝业	495	391	2086	1824	420	435
天山铝业	120	120	250	250	115	115
中国宏桥	646	555	1700	1540	585	590
南山铝业	82.4	82.4	340	245	65	50

资料来源：公司数据，海通国际预测（产能以2022年年报披露为准）

注：中国铝业产能、产量口径均不包含云铝股份。各公司产量预计均为权益口径。

紫金矿业：铜金量价齐升持续扩张，两湖两矿锂资源新格局形成



公司在中国15个省（区）和海外13个国家拥有重要矿业投资项目。

境内：西藏巨龙铜矿、黑龙江多宝山铜矿、福建紫金山铜金矿、新疆阿舍勒铜矿、山西紫金、贵州紫金、陇南紫金等。

境外：塞尔维亚丘卡卢-佩吉铜金矿、塞尔维亚博尔铜矿、刚果（金）卡莫阿铜矿、刚果（金）科卢韦齐铜矿、哥伦比亚武里蒂卡金矿等。

2020-2022年，公司铜产量大幅提升，**铜产量**从37万吨增至 86 万吨，进入全球上市铜企前6位；**矿产金**从 41 吨增至 56 吨，进位至全球上市金企第 9 位；**碳酸锂当量资源量**将超过 1000 万吨，远景规划年产能将突破 15 万吨碳酸锂当量，均将进入全球前 10、国内前 3。

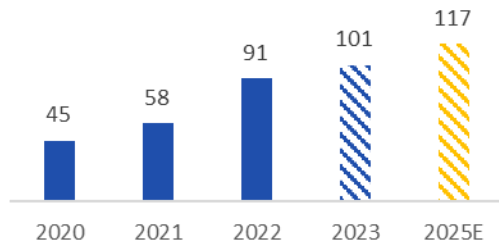
资料来源：紫金矿业2022年报，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

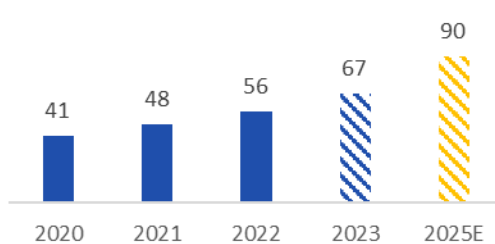
紫金矿业：2023年矿产品产量、2025年产量规划

受益于卡莫阿铜矿等三大世界级铜矿的稳产，紫金矿业2023年矿产铜产量达101万吨，同比增长11%，成为中国唯一矿产铜破百万大关的企业，也是近年全球增长最快的大型铜矿公司。此外，实现矿产金产量67.7吨，同比增长20%，相当于国内2023年矿产金产量的近四分之一；矿产锌产量46.7万吨，同比增长3%。

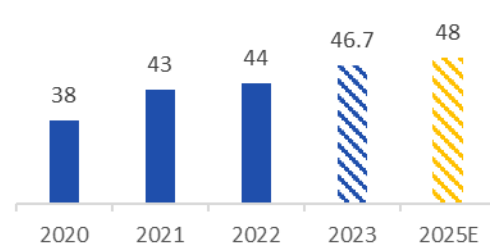
矿产铜（万吨）



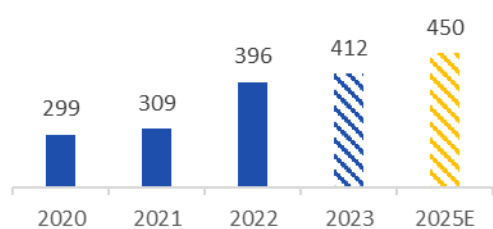
矿产金（吨）



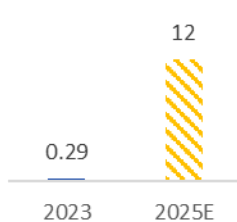
矿产锌铅（万吨）



矿产银（吨）



碳酸锂（万吨）



产品	单位	2022	2023	2024E
矿产铜	万吨	88	101	111
矿产金	吨	56	67	73.5
矿产锌 (铅)	万吨	44	46.7	47
矿产银	吨	396	412	420
碳酸锂	万吨	-	0.29	2.5

资料来源：紫金矿业公告，海通国际

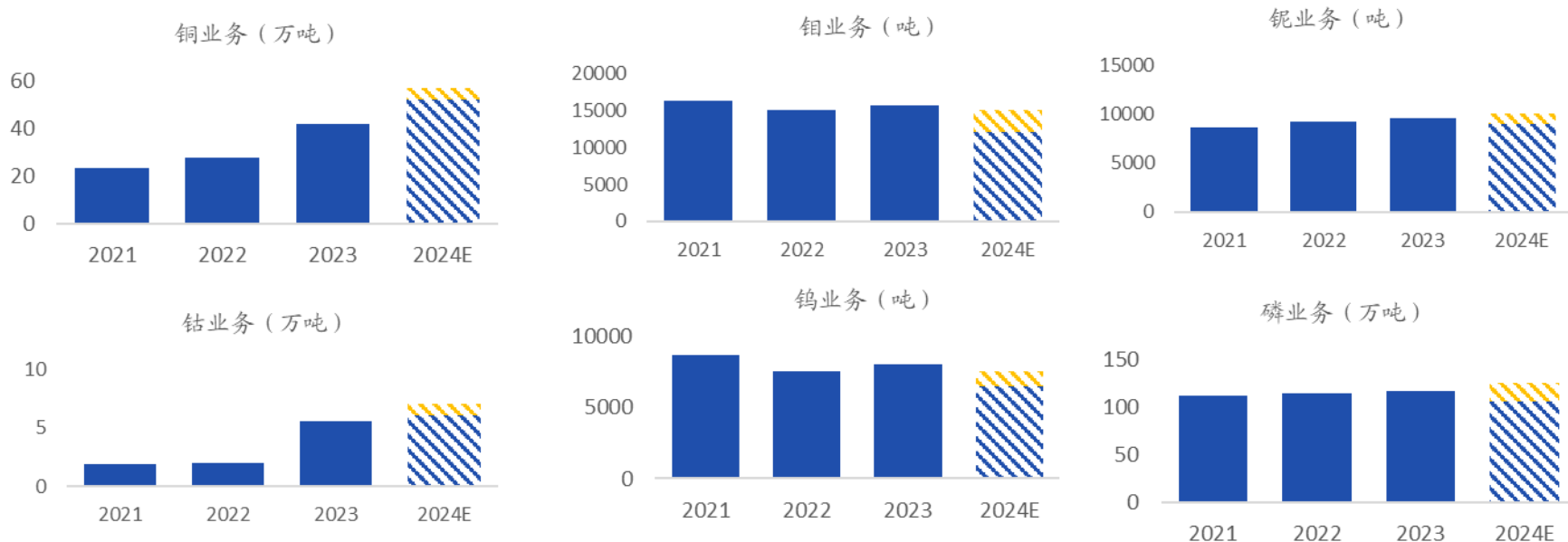
注：2022年矿产铜产量含公司持有艾芬豪矿业13.59%股权部分所对应权益；上述产量包括控股企业100%产量及联营合营企业权益产量；公司2022年度矿产品产量统计口径已调整至与2023年度相同，即增加公司所参股的西藏玉龙铜矿项目（22%）及内蒙古万城商务铅锌矿项目（42.8%）对应的权益产量。

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

洛阳钼业：TFM扩建项目稳步推进，KFM一期达产，铜钴产量实现倍增

据洛阳钼业，2023年公司铜金属产量41.95万吨，同比+51%，钴金属产量5.56万吨，同比+174%（世界第一大钴生产商）。

根据指引，公司2024年计划产铜（按金属量计，下同）52-57万吨，产钴6-7万吨，较2023年增加铜产能10万吨以上、钴产能1万吨以上。此外，公司计划产钼1.2-1.5万吨，产钨0.65-0.75万吨，产铌0.9-1万吨，产磷肥105-125万吨，较2023年保持稳定。



资料来源：洛阳钼业公告，海通国际

注：澳洲铜金板块为80%口径，中国钨业务不含豫鹭矿业；2023年NPM铜金属及黄金产量截止其出售交割日（2023年12月15日）。

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

洛阳钼业：TFM扩建项目稳步推进，KFM一期达产，铜钴产量实现倍增

2024年，随着TFM和KFM实现满产，公司全年铜产量预计将提升到52万吨以上，有望进入全球前十大生产商。

刚果（金）KFM铜钴矿

总投资额	18亿美元	
股权比例	71.25%	继第一季度产出效益后，KFM于第二季度顺利投产并达到设计产能，目前每月铜产量 1.4万吨左右 。
原矿品种	氧化矿	
主要产品	阴极铜、氢氧化钴	

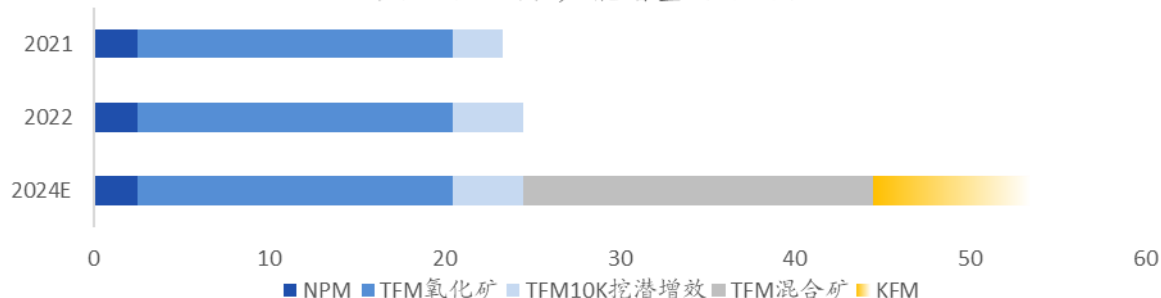
资料来源：洛阳钼业2022年报、2023年半年报，海通国际

刚果（金）TFM混合矿

总投资额	25.1亿美元	
股权比例	80%	截至2023年底，TFM五条生产线均已建成年处理矿石可达2000万吨。 达产后混合矿项目年产20万吨铜，1.7万吨钴。
原矿品种	氧化矿、硫化矿	
主要产品	阴极铜、氢氧化钴	

资料来源：洛阳钼业2022年报、2023年半年报，海通国际

洛阳钼业铜矿产能增量（万吨）



资料来源：洛阳钼业公告，海通国际

2021年铜产量23.3万吨；10K项目达产

↓
2022年铜产量27.7万吨

↓
TFM混合矿、KFM达产，铜增量约29万吨

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

中国宏桥：电解铝滨州铝产业集群+云南产能搬迁

中国宏桥电解铝产能**646万吨**，位列全国第二（第一为中国铝业并表云铝股份后的产能）。2022年，电解铝产量604.1万吨，销量572万吨，同比增加8.3%；销售价格17582元/吨（不含税），同比增加6.2%；公司电解铝毛利约率13.5%。2023年，我们预计公司电解铝产量为585万吨。**23H1**，公司电解铝产量为**282.4万吨**，同比增加约**5.7%**，销售价格**16284元/吨**（不含税）。

公司计划向云南转移产能**396万吨**。截至2024年初，文山建成产能203万吨，闲置产能50多万吨，向红河转移193万吨，红河的产能转移将根据电力供应情况进行。以上约400万吨产能中，100万吨产能由山东转移至文山，利用山东现有设备，搬迁费用约2000元/吨；剩余约300万吨产能采用新建方式，应用全球最先进设备，新建成本约5500元/吨（包括设备、厂房成本，不含土地成本）。

一体化优势带来低成本电解铝。得益于公司一体化的产业模式以及滨州市铝产业集群带来的成本优势，公司毛利率显著高于行业平均水平。未来随着云南产能搬迁项目完成并投产，当地低成本水电将使公司电解铝成本进一步下降。



669.9 万吨 
2022年铝产品总产量



1857.42 亿元 
2022年总资产



资料来源：公司官网，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

中国宏桥：低成本、高品质铝矾土

打通上游原材料供应环节。公司于2014年开始布局几内亚铝土矿资源，与新加坡韦立国际集团、烟台港集团、几内亚UMS公司组成赢联盟，赢联盟在几内亚合资成立博凯矿业公司和赢联盟港口公司，为公司打造了一条自国外矿山到国内工厂、集多式联运为一体的完整产业链条。

资料来源：公司公告，海通国际

几内亚：2022年铝土矿年化产能约5000万吨/年，公司几内亚采购矿石量占矿石使用量的60%以上。几内亚二期矿区已经投产，预计每年有1000万吨左右的增量，预计到2026年，几内亚项目的总出矿量将达到8000万吨。公司从几内亚采购矿石的成本大概65美元/吨。

其他：继续实施多渠道战略，在澳大利亚、印尼等拓展铝矾土供应。澳洲年开采能力已达1000+万吨，且采购成本低于几内亚矿石，2022年加大了对澳洲矿的采购。

几内亚



印度尼西亚



澳大利亚



中国宏桥：低成本氧化铝，高自给率

截至2022年底，公司氧化铝产能1950万吨，其中山东1750万吨（其中250万吨于2022年底收购。2022年并未贡献产量），印尼200万吨，实现完全自给并对外销售。

印尼：印尼宏发韦立氧化铝项目每年可至少生产氧化铝200万吨。2022年，中国宏桥维持于印度尼西亚一期100万吨氧化铝项目的良好运行。二期新增年产能100万吨的项目已于2022年内全面建成并顺利投产。

自产氧化铝在进一步延伸产业链的同时，有效降低了氧化铝采购成本，从而提高公司成本控制能力。随着氧化铝产能逐步释放，公司从2018年起开始对外出售氧化铝，2021年公司对外销售氧化铝716.3万吨，净销售收入达87.52亿。2022年，由于云南不断投产，节约氧化铝用量200多万吨，公司氧化铝销量为829.8万吨，创造营收约214亿元，约占总收入16.2%，是公司营收的重要组成部分。



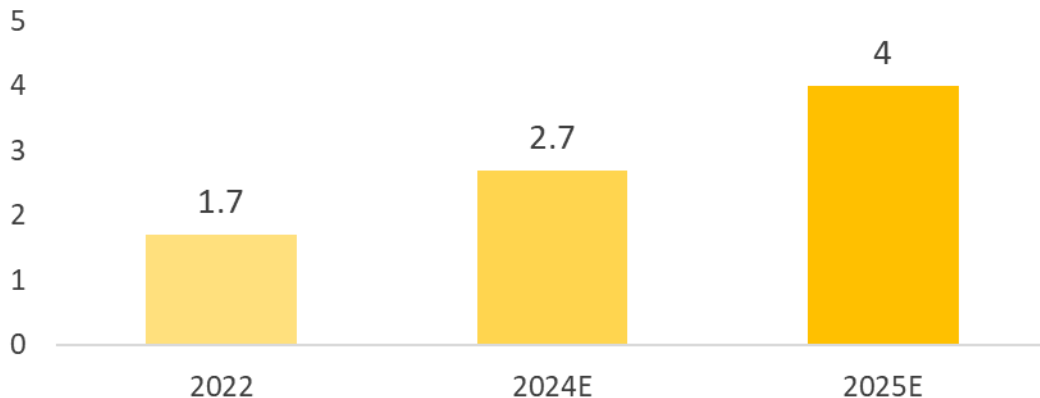
资料来源：公司公告，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

金力永磁：矗立于新能源车赛道，磁材龙头不容小觑

公司产能建设逐步推进，我们预计2025年可达4万吨钕铁硼毛坯产能。目前公司的毛坯产能已具备年产2.3万吨的生产能力，在包头投资建设的一期项目8000吨钕铁硼已完全投产，包头1.2万吨二期项目和宁波3000吨及1亿台套组件项目正在建设中，规划2024-2025年在赣州新建2000吨高效节能电机用磁材基地项目。我们预计，公司24年年底钕铁硼毛坯产能可达3.8万吨，其中包含赣州工厂1.5万吨、包头工厂2万吨以及宁波工厂3000吨。从产量角度，我们预计公司24年实现钕铁硼毛坯产量2.7万吨，钕铁硼成品1.9万吨。随着扩产计划的逐步落实，2025年公司将在国内将建成高性能钕铁硼永磁材料年产能4万吨。

金力永磁钕铁硼毛坯产量（万吨）



资料来源：金力永磁2022年报，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

中国黄金国际：央企海外上市平台，充分受益铜金价格上升周期

长山壕矿位于中国内蒙古自治区，该资产有两个低品位、近地表的黄金矿床，以及其他矿化物。由内蒙古太平矿业有限公司（中国合作经营企业）拥有及经营，本公司持有其96.5%权益，宁夏回族自治区核工业地质勘查院持有其余下3.5%权益。

黄金产销量保持稳定，生产成本由增转降。2022年长山壕矿的黄金产销量为4.6吨，同比持平。2022年长山壕矿黄金的总生产成本为1340美元/盎司，同比下降12.9%；现金生产成本为803美元/盎司，同比下降24.4%。

长山壕矿目前日产矿石量为40000吨，年产黄金约4.6吨。该矿山已完成外围及深部资源勘探，2022年探明及控制资源量估算同比增加130%，矿山寿命有望延长至少15年。长山壕金矿于**2024年1月3日**开始全面恢复正常生产运营。目前长山壕矿的边坡维护工作已完成，采矿、运输、破碎和上矿均已达到正常水准。长山壕矿的深部资源开发准备工作正在有序进行中，并已取得显著进展。公司继续推进长山壕矿深部资源利用的可行性研究。



资料来源：公司2022年报，海通国际

中国黄金国际：央企海外上市平台，充分受益铜金价格上升周期

甲玛矿是大型铜金多金属矿床，蕴含铜、黄金、银、钼、铅和锌，位于中国西藏自治区的冈底斯矿化带，以地下采矿作业及露天作业方式开采。公司持有其100%权益。

2010年下半年，甲玛矿区一期开始进行采矿作业，并于2011年初达到设计产能6000吨/日。甲玛矿区二期于2018年开始进行采矿作业，设计产能为4.4万吨/日，于2020年达产。甲玛矿的综合采矿及选矿能力为5万吨/日，年产8.5-9万吨铜+3吨黄金。目前甲玛的资源储量可供稳定开采30年，现金成本2.12美元/磅，总成本2.8美元/磅（按单铜矿计算）。

甲玛铜金多金属矿逐步复产。2023年12月18日公司发布公告，甲玛铜金多金属矿已于2023年12月15日开始逐步恢复生产。本次的甲玛矿复工为部分井下采空区治理及一期选矿厂恢复运营生产，日处理矿量6000吨。目前果朗沟尾矿库坝体的修复和加固工程已全面完工，安全评估报告已完成，正等待政府验收及审批。后续尾矿排放方案的审核流程也在同期进行中。



资料来源：公司2022年报，海通国际

甲玛矿2022年底矿产资源量

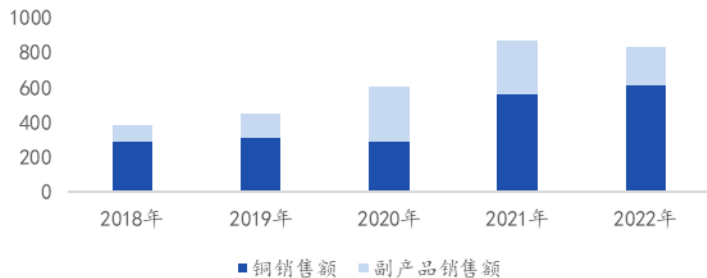
矿产资源种类	矿石量	铜	钼	铅	锌	金	银	铜金属	钼金属	铅金属	锌金属	金	银
	百万吨	%	%	%	%	克/吨	克/吨	千吨	千吨	千吨	千吨	百万盎司	百万盎司
探明	91.94	0.38	0.04	0.04	0.02	0.07	5.05	350.6	33.7	33.5	16.8	0.216	14.921
控制	1,315.48	0.40	0.03	0.05	0.03	0.10	5.48	5,216.8	451.9	613.1	380.0	4.197	232.005
探明+控制	1,407.42	0.40	0.03	0.05	0.03	0.10	5.46	5,567.4	485.6	646.6	396.8	4.412	246.926
推断	406.10	0.31	0.03	0.08	0.04	0.10	5.13	1,247.0	123.0	311.0	175.0	1.317	66.926
总计	1,813.52	0.38	0.03	0.06	0.03	0.10	5.39	6,814.4	608.6	957.6	571.8	5.729	313.852

资料来源：公司2022年报，海通国际

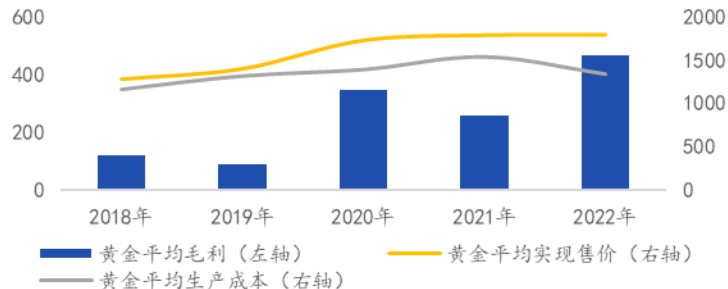
For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

中国黄金国际：央企海外上市平台，充分受益铜金价格上升周期

甲玛矿历年收入结构 (百万美元)



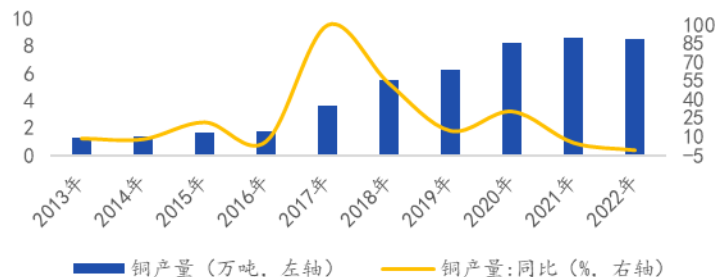
长山壕矿黄金盈利情况 (美元/盎司)



公司历年黄金产量



公司历年黄金产量



资料来源：公司年报，海通国际

For full disclosure of risks, valuation methodologies and target price formation on all HTI rated stocks, please refer to the latest full report on our website at equities.htisec.com

全球经济增长不确定性；新能源车销量不及预期。

Summary

Copper: Overseas copper mine supply disruptions are frequent, and the supply side is expected to tighten due to insufficient capital expenditure of global copper companies in recent years. The increase in investment in the power grid is expected to drive the increase in copper demand in the power industry, and the new energy industry is a new growth point for copper demand, and the demand is expected to rebound.

Aluminum: The domestic electrolytic aluminum production capacity has reached the ceiling, and the capacity utilization rate has reached a new high. The problem of electricity in Yunnan is prominent, and the production of electrolytic aluminum is reduced. New energy vehicles and photovoltaics have become new growth engines. The decline in raw material prices has helped the profitability of the electrolytic aluminum industry to rebound.

Gold: The overall trend of gold in 2023 was dominated by volatile upward movements, with an annual increase of 13.16%. In 2024, factors such as the Fed's interest rate cut expectations and intensifying geopolitical risks may support the trend of gold prices.

Risks: Uncertainty in global economic growth; sales of new energy vehicles fell short of expectations.

重要信息披露

本研究报告由海通国际分销，海通国际是由海通国际研究有限公司(HTIRL)，Haitong Securities India Private Limited (HSIPL)，Haitong International Japan K.K. (HTIJKK)和海通国际证券有限公司(HTISCL)的证券研究团队所组成的全球品牌，海通国际证券集团(HTISG)各成员分别在其许可的司法管辖区内从事证券活动。

IMPORTANT DISCLOSURES

This research report is distributed by Haitong International, a global brand name for the equity research teams of Haitong International Research Limited (“HTIRL”), Haitong Securities India Private Limited (“HSIPL”), Haitong International Japan K.K. (“HTIJKK”), Haitong International Securities Company Limited (“HTISCL”), and any other members within the Haitong International Securities Group of Companies (“HTISG”), each authorized to engage in securities activities in its respective jurisdiction.

HTIRL分析师认证Analyst Certification:

我，吴旖婕，在此保证 (i) 本研究报告中的意见准确反映了我们对本研究中提及的任何或所有目标公司或上市公司的个人观点，并且 (ii) 我的报酬中没有任何部分与本研究报告中表达的具体建议或观点直接或间接相关；及就此报告中所讨论目标公司的证券，我们（包括我们的家属）在其中均不持有任何财务利益。我和我的家属（我已经告知他们）将不会在本研究报告发布后的3个工作日内交易此研究报告所讨论目标公司的证券。I, Yijie Wu, certify that (i) the views expressed in this research report accurately reflect my personal views about any or all of the subject companies or issuers referred to in this research and (ii) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report; and that I (including members of my household) have no financial interest in the security or securities of the subject companies discussed. I and my household, whom I have already notified of this, will not deal in or trade any securities in respect of the issuer that I review within 3 business days after the research report is published.

我，王曼琪，在此保证 (i) 本研究报告中的意见准确反映了我们对本研究中提及的任何或所有目标公司或上市公司的个人观点，并且 (ii) 我的报酬中没有任何部分与本研究报告中表达的具体建议或观点直接或间接相关；及就此报告中所讨论目标公司的证券，我们（包括我们的家属）在其中均不持有任何财务利益。我和我的家属（我已经告知他们）将不会在本研究报告发布后的3个工作日内交易此研究报告所讨论目标公司的证券。I, Manqi Wang, certify that (i) the views expressed in this research report accurately reflect my personal views about any or all of the subject companies or issuers referred to in this research and (ii) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report; and that I (including members of my household) have no financial interest in the security or securities of the subject companies discussed. I and my household, whom I have already notified of this, will not deal in or trade any securities in respect of the issuer that I review within 3 business days after the research report is published.

利益冲突披露 Conflict of Interest Disclosures

海通国际及其某些关联公司可从事投资银行业务和/或对本研究中的特定股票或公司进行做市或持有自营头寸。就本研究报告而言，以下是有关该等关系的披露事项（以下披露不能保证及时无遗漏，如需了解及时全面信息，[请发邮件至ERD-Disclosure@htisec.com](mailto:ERD-Disclosure@htisec.com)）

HTI and some of its affiliates may engage in investment banking and / or serve as a market maker or hold proprietary trading positions of certain stocks or companies in this research report. As far as this research report is concerned, the following are the disclosure matters related to such relationship (As the following disclosure does not ensure timeliness and completeness, please send an email to ERD-Disclosure@htisec.com if timely and comprehensive information is needed).

000630.CH, 603993.CH, 西部矿业集团财务有限公司, 金世旗国际控股股份有限公司, 山东黄金集团财务有限公司, 600988.CH, 000603.CH 及 601600.CH 目前或过去12个月内是海通的客户。海通向客户提供非投资银行业务的证券相关业务服务。

000630.CH, 603993.CH, 西部矿业集团财务有限公司, 金世旗国际控股股份有限公司, 山东黄金集团财务有限公司, 600988.CH, 000603.CH and 601600.CH are/were a client of Haitong currently or within the past 12 months. The client has been provided for non-investment-banking securities-related services.

000878.CH 目前或过去12个月内是海通的客户。海通向客户提供非证券业务服务。

000878.CH is/was a client of Haitong currently or within the past 12 months. The client has been provided for non-securities services.

海通预计将（或者有意向）在未来三个月内从1258.HK获得投资银行服务报酬。

Haitong expects to receive, or intends to seek, compensation for investment banking services in the next three months from 1258.HK.

海通在过去的12个月中从000630.CH 及 601600.CH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 000630.CH and 601600.CH.

评级定义（从2020年7月1日开始执行）：

海通国际（以下简称“HTI”）采用相对评级系统来为投资者推荐我们覆盖的公司：优于大市、中性或弱于大市。投资者应仔细阅读HTI的评级定义。并且HTI发布分析师观点的完整信息，投资者应仔细阅读全文而非仅看评级。在任何情况下，分析师的评级和研究都不能作为投资建议。投资者的买卖股票的决策应基于各自情况（比如投资者的现有持仓）以及其他因素。

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.

Ratings Definitions (from 1 Jul 2020):

Haitong International uses a relative rating system using Outperform, Neutral, or Underperform for recommending the stocks we cover to investors. Investors should carefully read the definitions of all ratings used in Haitong International Research. In addition, since Haitong International Research contains more complete information concerning the analyst's views, investors should carefully read Haitong International Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Analyst Stock Ratings

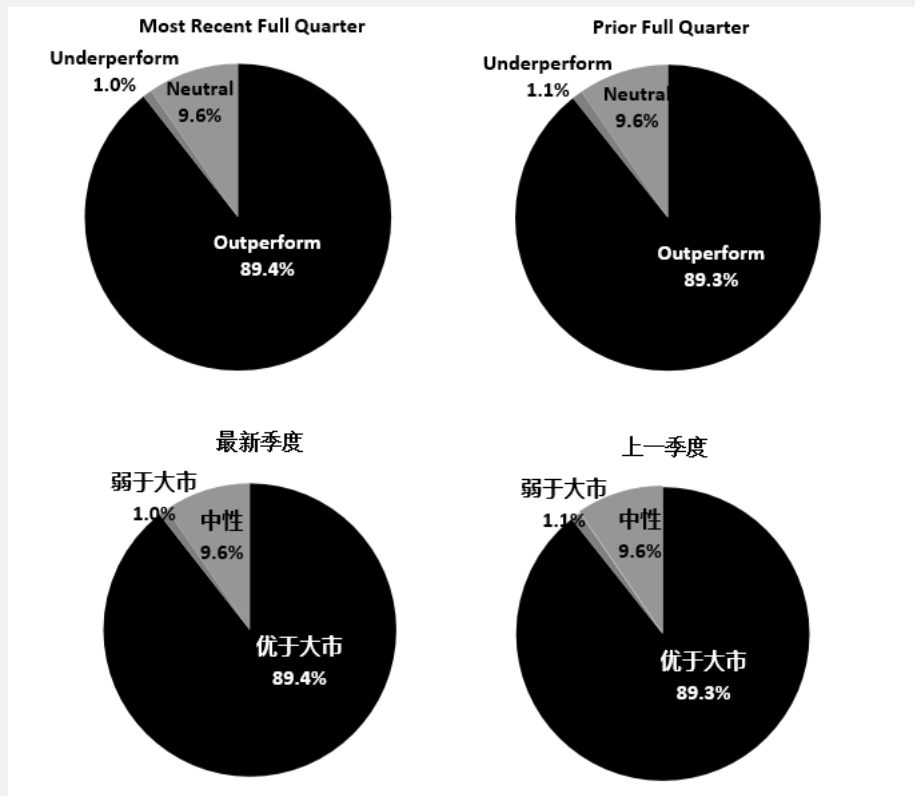
Outperform: The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

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2023年12月31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%	9.6 %	1.0%
投资银行客户*	3.9%	5.1%	5.6%

*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。

此前的评级系统定义（直至2020年9月30日）：

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 December 31, 2023

	Outperform	Neutral (hold)	Underperform
HTI Equity Research Coverage	89.4%	9.6 %	1.0%
IB clients*	3.9%	5.1%	5.6%

*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.

For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category. Please note that stocks with an NR designation are not included in the table above.

Previous rating system definitions (until 30 Jun 2020):

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

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.

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.

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

海通国际非评级研究：海通国际发布计量、筛选或短篇报告，并在报告中根据估值和其他指标对股票进行排名，或者基于可能的估值倍数提出建议价格。这种排名或建议价格并非为了进行股票评级、提出目标价格或进行基本面估值，而仅供参考使用。

Haitong International Non-Rated Research: Haitong International publishes quantitative, screening or short reports which may rank stocks according to valuation and other metrics or may suggest prices based on possible valuation multiples. Such rankings or suggested prices do not purport to be stock ratings or target prices or fundamental values and are for information only.

海通国际A股覆盖：海通国际可能会就沪港通及深港通的中国A股进行覆盖及评级。海通证券（600837.CH），海通国际于上海的母公司，也会于中国发布中国A股的研究报告。但是，海通国际使用与海通证券不同的评级系统，所以海通国际与海通证券的中国A股评级可能有所不同。

Haitong International Coverage of A-Shares: Haitong International may cover and rate A-Shares that are subject to the Hong Kong Stock Connect scheme with Shanghai and Shenzhen. Haitong Securities (HS; 600837 CH), the ultimate parent company of HTISG based in Shanghai, covers and publishes research on these same A-Shares for distribution in mainland China. However, the rating system employed by HS differs from that used by HTI and as a result there may be a difference in the HTI and HS ratings for the same A-share stocks.

海通国际优质100 A股（Q100）指数：海通国际Q100指数是一个包括100支由海通证券覆盖的优质中国A股的计量产品。这些股票是通过基于质量的筛选过程，并结合对海通证券A股团队自下而上的研究。海通国际每季对Q100指数成分作出复审。

Haitong International Quality 100 A-share (Q100) Index: HTI's Q100 Index is a quant product that consists of 100 of the highest-quality A-shares under coverage at HS in Shanghai. These stocks are carefully selected through a quality-based screening process in combination with a review of the HS A-share team's bottom-up research. The Q100 constituent companies are reviewed quarterly.

盟浪义利（FIN-ESG）数据通免责声明条款：在使用盟浪义利（FIN-ESG）数据之前，请务必仔细阅读本条款并同意本声明：

第一条 义利（FIN-ESG）数据系由盟浪可持续数字科技有限责任公司（以下简称“本公司”）基于合法取得的公开信息评估而成，本公司对信息的准确性及完整性不作任何保证。对公司的评估结果仅供参考，并不构成对任何个人或机构投资建议，也不能作为任何个人或机构购买、出售或持有相关金融产品的依据。本公司不对任何个人或机构投资者因使用本数据表述的评估结果造成的任何直接或间接损失负责。

第二条 盟浪并不因收到此评估数据而将收件人视为客户，收件人使用此数据时应根据自身实际情况作出自我独立判断。本数据所载内容反映的是盟浪在最初发布本数据日期当日的判断，盟浪有权在不发出通知的情况下更新、修订与发出其他与本数据所载内容不一致或有不同结论的数据。除非另行说明，本数据（如财务业绩数据等）仅代表过往表现，过往的业绩表现不作为日后回报的预测。

第三条 本数据版权归本公司所有，本公司依法保留各项权利。未经本公司事先书面许可授权，任何个人或机构不得将本数据中的评估结果用于任何营利性目的，不得对本数据进行修改、复制、编译、汇编、再次编辑、改编、删减、缩写、节选、发行、出租、展览、表演、放映、广播、信息网络传播、摄制、增加图标及说明等，否则因此给盟浪或其他第三方造成损失的，由用户承担相应的赔偿责任，盟浪不承担责任。

第四条 如本免责声明未约定，而盟浪网站平台载明的其他协议内容（如《盟浪网站用户注册协议》《盟浪网用户服务（含认证）协议》《盟浪网隐私政策》等）有约定的，则按其他协议的约定执行；若本免责声明与其他协议约定存在冲突或不一致的，则以本免责声明约定为准。

SusallWave FIN-ESG Data Service Disclaimer: Please read these terms and conditions below carefully and confirm your agreement and acceptance with these terms before using SusallWave FIN-ESG Data Service.

1. FIN-ESG Data is produced by SusallWave Digital Technology Co., Ltd. (In short, SusallWave)'s assessment based on legal publicly accessible information. SusallWave shall not be responsible for any accuracy and completeness of the information. The assessment result is for reference only. It is not for any investment advice for any individual or institution and not for basis of purchasing, selling or holding any relative financial products. We will not be liable for any direct or indirect loss of any individual or institution as a result of using SusallWave FIN-ESG Data.

2. SusallWave do not consider recipients as customers for receiving these data. When using the data, recipients shall make your own independent judgment according to your practical individual status. The contents of the data reflect the judgment of us only on the release day. We have right to update and amend the data and release other data that contains inconsistent contents or different conclusions without notification. Unless expressly stated, the data (e.g., financial performance data) represents past performance only and the past performance cannot be viewed as the prediction of future return.

3. The copyright of this data belongs to SusallWave, and we reserve all rights in accordance with the law. Without the prior written permission of our company, none of individual or institution can use these data for any profitable purpose. Besides, none of individual or institution can take actions such as amendment, replication, translation, compilation, re-editing, adaption, deletion, abbreviation, excerpts, issuance, rent, exhibition, performance, projection, broadcast, information network transmission, shooting, adding icons and instructions. If any loss of SusallWave or any third-party is caused by those actions, users shall bear the corresponding compensation liability. SusallWave shall not be responsible for any loss.

4. If any term is not contained in this disclaimer but written in other agreements on our website (e.g. User Registration Protocol of SusallWave Website, User Service (including authentication) Agreement of SusallWave Website, Privacy Policy of Susallwave Website), it should be executed according to other agreements. If there is any difference between this disclaimer and other agreements, this disclaimer shall be applied.

重要免责声明:

非印度证券的研究报告: 本报告由海通国际证券集团有限公司 (“HTISGL”) 的全资附属公司海通国际研究有限公司 (“HTIRL”) 发行, 该公司是根据香港证券及期货条例 (第571章) 持有第4类受规管活动 (就证券提供意见) 的持牌法团。该研究报告在HTISGL的全资附属公司Haitong International (Japan) K.K. (“HTIJKK”) 的协助下发行, HTIJKK是由日本关东财务局监管为投资顾问。

印度证券的研究报告: 本报告由从事证券交易、投资银行及证券分析及受Securities and Exchange Board of India (“SEBI”) 监管的Haitong Securities India Private Limited (“HTSIPL”) 所发行, 包括制作及发布涵盖BSE Limited (“BSE”) 和National Stock Exchange of India Limited (“NSE”) 上市公司 (统称为「印度交易所」) 的研究报告。HTSIPL于2016年12月22日被收购并成为海通国际证券集团有限公司 (“HTISG”) 的一部分。

所有研究报告均以海通国际为名作为全球品牌, 经许可由海通国际证券股份有限公司及/或海通国际证券集团的其他成员在其司法管辖区发布。

本文件所载信息和观点已被编译或源自可靠来源, 但HTIRL、HTISGL或任何其他属于海通国际证券集团有限公司 (“HTISG”) 的成员对其准确性、完整性和正确性不做任何明示或暗示的声明或保证。本文件中所有观点均截至本报告日期, 如有更改, 恕不另行通知。本文件仅供参考使用。文件中提及的任何公司或其股票的说明并非意图展示完整的内容, 本文件并非/不应被解释为对证券买卖的明示或暗示地出价或征价。在某些司法管辖区, 本文件中提及的证券可能无法进行买卖。如果投资产品以投资者本国货币以外的币种进行计价, 则汇率变化可能会对投资产生不利影响。过去的表现并不一定代表将来的结果。某些特定交易, 包括设计金融衍生工具的, 有产生重大风险的可能性, 因此并不适合所有的投资者。您还应认识到本文件中的建议并非为您量身定制。分析师并未考虑到您自身的财务情况, 如您的财务状况和风险偏好。因此您必须自行分析并在适用的情况下咨询自己的法律、税收、会计、金融和其他方面的专业顾问, 以期在投资之前评估该项建议是否适合于您。若由于使用本文件所载的材料而产生任何直接或间接的损失, HTISG及其董事、雇员或代理人对此均不承担任何责任。

除对本文内容承担责任的分析师除外, HTISG及我们的关联公司、高级管理人员、董事和雇员, 均可不时作为主事人就本文件所述的任何证券或衍生品持有长仓或短仓以及进行买卖。HTISG的销售员、交易员和其他专业人士均可向HTISG的相关客户和公司提供与本文件所述意见相反的口头或书面市场评论意见或交易策略。HTISG可做出与本文件所述建议或意见不一致的投资决策。但HTIRL没有义务来确保本文件的收件人了解到该等交易决定、思路或建议。

请访问海通国际网站 www.equities.htisec.com, 查阅更多有关海通国际为预防和避免利益冲突设立的组织和行政安排的内容信息。

非美国分析师披露信息: 本项研究首页上列明的海通国际分析师并未在FINRA进行注册或者取得相应的资格, 并且不受美国FINRA有关与本项研究目标公司进行沟通、公开露面和自营证券交易的第2241条规则之限制。

IMPORTANT DISCLAIMER

For research reports on non-Indian securities: The research report is issued by Haitong International Research Limited (“HTIRL”), a wholly owned subsidiary of Haitong International Securities Group Limited (“HTISGL”) and a licensed corporation to carry on Type 4 regulated activity (advising on securities) for the purpose of the Securities and Futures Ordinance (Cap. 571) of Hong Kong, with the assistance of Haitong International (Japan) K.K. (“HTIJKK”), a wholly owned subsidiary of HTISGL and which is regulated as an Investment Adviser by the Kanto Finance Bureau of Japan.

For research reports on Indian securities: The research report is issued by Haitong Securities India Private Limited (“HSIPL”), an Indian company and a Securities and Exchange Board of India (“SEBI”) registered Stock Broker, Merchant Banker and Research Analyst that, inter alia, produces and distributes research reports covering listed entities on the BSE Limited (“BSE”) and the National Stock Exchange of India Limited (“NSE”) (collectively referred to as “Indian Exchanges”). HSIPL was acquired and became part of the Haitong International Securities Group of Companies (“HTISG”) on 22 December 2016.

All the research reports are globally branded under the name Haitong International and approved for distribution by Haitong International Securities Company Limited (“HTISCL”) and/or any other members within HTISG in their respective jurisdictions.

The information and opinions contained in this research report have been compiled or arrived at from sources believed to be reliable and in good faith but no representation or warranty, express or implied, is made by HTIRL, HTISCL, HSIPL, HTIJKK or any other members within HTISG from which this research report may be received, as to their accuracy, completeness or correctness. All opinions expressed herein are as of the date of this research report and are subject to change without notice. This research report is for information purpose only. Descriptions of any companies or their securities mentioned herein are not intended to be complete and this research report is not, and should not be construed expressly or impliedly as, an offer to buy or sell securities. The securities referred to in this research report may not be eligible for purchase or sale in some jurisdictions. If an investment product is denominated in a currency other than an investor's home currency, a change in exchange rates may adversely affect the investment. Past performance is not necessarily indicative of future results. Certain transactions, including those involving derivatives, give rise to substantial risk and are not suitable for all investors. You should also bear in mind that recommendations in this research report are not tailor-made for you. The analyst has not taken into account your unique financial circumstances, such as your financial situation and risk appetite. You must, therefore, analyze and should, where applicable, consult your own legal, tax, accounting, financial and other professional advisers to evaluate whether the recommendations suits you before investment. Neither HTISG nor any of its directors, employees or agents accepts any liability whatsoever for any direct or consequential loss arising from any use of the materials contained in this research report.

HTISG and our affiliates, officers, directors, and employees, excluding the analysts responsible for the content of this document, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research report. Sales, traders, and other professionals of HTISG may provide oral or written market commentary or trading strategies to the relevant clients and the companies within HTISG that reflect opinions that are contrary to the opinions expressed in this research report. HTISG may make investment decisions that are inconsistent with the recommendations or views expressed in this research report. HTI is under no obligation to ensure that such other trading decisions, ideas or recommendations are brought to the attention of any recipient of this research report.

Please refer to HTI's website www.equities.htisec.com for further information on HTI's organizational and administrative arrangements set up for the prevention and avoidance of conflicts of interest with respect to Research.

Non U.S. Analyst Disclosure: The HTI analyst(s) listed on the cover of this Research is (are) not registered or qualified as a research analyst with FINRA and are not subject to U.S. FINRA Rule 2241 restrictions on communications with companies that are the subject of the Research; public appearances; and trading securities by a research analyst.

分发和地区通知:

除非下文另有规定，否则任何希望讨论本报告或者就本项研究中讨论的任何证券进行任何交易的收件人均应联系其所在国家或地区的海通国际销售人员。

香港投资者的通知事项: 海通国际证券股份有限公司(“HTISCL”)负责分发该研究报告，HTISCL是在香港有权实施第1类受规管活动(从事证券交易)的持牌公司。该研究报告并不构成《证券及期货条例》(香港法例第571章)(以下简称“SFO”)所界定的要约邀请，证券要约或公众要约。本研究报告仅提供给SFO所界定的“专业投资者”。本研究报告未经过证券及期货事务监察委员会的审查。您不应仅根据本研究报告中所载的信息做出投资决定。本研究报告的收件人就研究报告中产生或与之相关的任何事宜请联系HTISCL销售人员。

美国投资者的通知事项: 本研究报告由HTIRL, HSIPL或HTIJKK编写。HTIRL, HSIPL, HTIJKK以及任何非HTISG美国联营公司，均未在美国注册，因此不受美国关于研究报告编制和研究分析人员独立性规定的约束。本研究报告提供给依照1934年“美国证券交易法”第15a-6条规定的豁免注册的「美国主要机构投资者」(“Major U.S. Institutional Investor”)和「机构投资者」(“U.S. Institutional Investors”)。在向美国机构投资者分发研究报告时，Haitong International Securities (USA) Inc. (“HTI USA”)将对报告的内容负责。任何收到本研究报告的美国投资者，希望根据本研究报告提供的信息进行任何证券或相关金融工具买卖的交易，只能通过HTI USA。HTI USA位于340 Madison Avenue, 12th Floor, New York, NY 10173, 电话(212) 351-6050。HTI USA是在美国于U.S. Securities and Exchange Commission (“SEC”)注册的经纪商，也是Financial Industry Regulatory Authority, Inc. (“FINRA”)的成员。HTIUSA不负责编写本研究报告，也不负责其中包含的分析。在任何情况下，收到本研究报告的任何美国投资者，不得直接与分析师直接联系，也不得通过HSIPL, HTIRL或HTIJKK直接进行买卖证券或相关金融工具的交易。本研究报告中出现的HSIPL, HTIRL或HTIJKK分析师没有注册或具备FINRA的研究分析师资格，因此可能不受FINRA第2241条规定的与目标公司的交流，公开露面和分析师账户持有的交易证券等限制。投资本研究报告中讨论的任何非美国证券或相关金融工具(包括ADR)可能存在一定风险。非美国发行的证券可能没有注册，或不受美国法规的约束。有关非美国证券或相关金融工具的信息可能有限制。外国公司可能不受审计和汇报的标准以及与美国境内生效相符的监管要求。本研究报告中以美元以外的其他货币计价的任何证券或相关金融工具的投资或收益的价值受汇率波动的影响，可能对该等证券或相关金融工具的价值或收入产生正面或负面影响。美国收件人的所有问询请联系:

Haitong International Securities (USA) Inc.
340 Madison Avenue, 12th Floor
New York, NY 10173
联系人电话: (212) 351 6050

DISTRIBUTION AND REGIONAL NOTICES

Except as otherwise indicated below, any Recipient wishing to discuss this research report or effect any transaction in any security discussed in HTI's research should contact the Haitong International salesperson in their own country or region.

Notice to Hong Kong investors: The research report is distributed by Haitong International Securities Company Limited ("HTISCL"), which is a licensed corporation to carry on Type 1 regulated activity (dealing in securities) in Hong Kong. This research report does not constitute a solicitation or an offer of securities or an invitation to the public within the meaning of the SFO. This research report is only to be circulated to "Professional Investors" as defined in the SFO. This research report has not been reviewed by the Securities and Futures Commission. You should not make investment decisions solely on the basis of the information contained in this research report. Recipients of this research report are to contact HTISCL salespersons in respect of any matters arising from, or in connection with, the research report.

Notice to U.S. investors: As described above, this research report was prepared by HTIRL, HSIPL or HTIJKK. Neither HTIRL, HSIPL, HTIJKK, nor any of the non U.S. HTISG affiliates is registered in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to "major U.S. institutional investors" and "U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended. When distributing research reports to "U.S. institutional investors," HTI USA will accept the responsibilities for the content of the reports. Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Haitong International Securities (USA) Inc. ("HTI USA"), located at 340 Madison Avenue, 12th Floor, New York, NY 10173, USA; telephone (212) 351 6050. HTI USA is a broker-dealer registered in the U.S. with the U.S. Securities and Exchange Commission (the "SEC") and a member of the Financial Industry Regulatory Authority, Inc. ("FINRA"). HTI USA is not responsible for the preparation of this research report nor for the analysis contained therein. Under no circumstances should any U.S. recipient of this research report contact the analyst directly or effect any transaction to buy or sell securities or related financial instruments directly through HSIPL, HTIRL or HTIJKK. The HSIPL, HTIRL or HTIJKK analyst(s) whose name appears in this research report is not registered or qualified as a research analyst with FINRA and, therefore, may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. Investing in any non-U.S. securities or related financial instruments (including ADRs) discussed in this research report may present certain risks. The securities of non-U.S. issuers may not be registered with, or be subject to U.S. regulations. Information on such non-U.S. securities or related financial instruments may be limited. Foreign companies may not be subject to audit and reporting standards and regulatory requirements comparable to those in effect within the U.S. The value of any investment or income from any securities or related financial instruments discussed in this research report denominated in a currency other than U.S. dollars is subject to exchange rate fluctuations that may have a positive or adverse effect on the value of or income from such securities or related financial instruments. All inquiries by U.S. recipients should be directed to:

Haitong International Securities (USA) Inc.
340 Madison Avenue, 12th Floor
New York, NY 10173
Attn: Sales Desk at (212) 351 6050

中华人民共和国的通知事项：在中华人民共和国（下称“中国”，就本报告目的而言，不包括香港特别行政区、澳门特别行政区和台湾）只有根据适用的中国法律法规而收到该材料的人员方可使用该材料。并且根据相关法律法规，该材料中的信息并不构成“在中国从事生产、经营活动”。本文件在中国并不构成相关证券的公共发售或认购。无论根据法律规定或其他任何规定，在取得中国政府所有的批准或许可之前，任何法人或自然人均不得直接或间接地购买本材料中的任何证券或任何实益权益。接收本文件的人员须遵守上述限制性规定。

加拿大投资者的通知事项：在任何情况下该等材料均不得被解释为在任何加拿大的司法管辖区内出售证券的要约或认购证券的要约邀请。本材料中所述证券在加拿大的任何要约或出售行为均只能在豁免向有关加拿大证券监管机构提交招股说明书的前提下由Haitong International Securities (USA) Inc.（“HTI USA”）予以实施，该公司是一家根据National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations（“NI 31-103”）的规定得到「国际交易商豁免」（“International Dealer Exemption”）的交易商，位于艾伯塔省、不列颠哥伦比亚省、安大略省和魁北克省。在加拿大，该等材料在任何情况下均不得被解释为任何证券的招股说明书、发行备忘录、广告或公开发售。加拿大的任何证券委员会或类似的监管机构均未审查或以任何方式批准该等材料、其中所载的信息或所述证券的优点，任何与此相反的声明即属违法。在收到该等材料时，每个加拿大的收件人均将被视为属于National Instrument 45-106 Prospectus Exemptions第1.1节或者Securities Act (Ontario)第73.3(1)节所规定的「认可投资者」（“Accredited Investor”），或者在适用情况下National Instrument 31-103第1.1节所规定的「许可投资者」（“Permitted Investor”）。

新加坡投资者的通知事项：本研究报告由Haitong International Securities (Singapore) Pte Ltd（“HTISSPL”）[公司注册编号201311400G]于新加坡提供。HTISSPL是符合《财务顾问法》（第110章）（“FAA”）定义的豁免财务顾问，可（a）提供关于证券，集体投资计划的部分，交易所衍生品合约和场外衍生品合约的建议（b）发行或公布有关证券、交易所衍生品合约和场外衍生品合约的研究分析或研究报告。本研究报告仅提供给符合《证券及期货法》（第289章）第4A条项下规定的机构投资者。对于因本研究报告而产生的或与之相关的任何问题，本研究报告的收件人应通过以下信息与HTISSPL联系：

Haitong International Securities (Singapore) Pte. Ltd
50 Raffles Place, #33-03 Singapore Land Tower, Singapore 048623
电话: (65) 6536 1920

日本投资者的通知事项：本研究报告由海通国际证券有限公司所发布，旨在分发给从事投资管理的金融服务提供商或注册金融机构（根据日本金融机构和交易法（“FIEL”）第61（1）条，第17-11（1）条的执行及相关条款）。

英国及欧盟投资者的通知事项：本报告由从事投资顾问的Haitong International Securities Company Limited所发布，本报告只面向有投资相关经验的专业客户发布。任何投资或与本报告相关的投资行为只面对此类专业客户。没有投资经验或相关投资经验的客户不得依赖本报告。Haitong International Securities Company Limited的分支机构的净长期或短期金融权益可能超过本研究报告中提及的实体已发行股本总额的0.5%。特别提醒有些英文报告有可能此前已经通过中文或其它语言完成发布。

澳大利亚投资者的通知事项：Haitong International Securities (Singapore) Pte Ltd, Haitong International Securities Company Limited和Haitong International Securities (UK) Limited分别根据澳大利亚证券和投资委员会（以下简称“ASIC”）第03/1102、03/1103或03/1099号规章在澳大利亚分发本项研究，该等规章免除了根据2001年《公司法》在澳大利亚为批发客户提供金融服务时海通国际需持有澳大利亚金融服务许可的要求。ASIC的规章副本可在以下网站获取：www.legislation.gov.au。海通国际提供的金融服务受外国法律法规规定的管制，该等法律与在澳大利亚所适用的法律存在差异。

印度投资者的通知事项：本报告由从事证券交易、投资银行及证券分析及受Securities and Exchange Board of India（“SEBI”）监管的Haitong Securities India Private Limited（“HTSIPL”）所发布，包括制作及发布涵盖BSE Limited（“BSE”）和National Stock Exchange of India Limited（“NSE”）（统称为「印度交易所」）研究报告。

研究机构名称: Haitong Securities India Private Limited

SEBI 研究分析师注册号: INH000002590

地址: 1203A, Floor 12A, Tower 2A, One World Center

841 Senapati Bapat Marg, Elphinstone Road, Mumbai 400 013, India

CIN U74140MH2011FTC224070

电话: +91 22 43156800 传真: +91 22 24216327

合规和申诉办公室联系人: Prasanna Chandwaskar; 电话: +91 22 43156803; 电子邮箱: prasanna.chandwaskar@htisec.com

“请注意，SEBI 授予的注册和 NISM 的认证并不保证中介的表现或为投资者提供任何回报保证”。

，未经海通国际的书面同意不得予以复制和再次分发。

版权所有：海通国际证券集团有限公司2019年。保留所有权利。

People’s Republic of China (PRC): In the PRC, the research report is directed for the sole use of those who receive the research report in accordance with the applicable PRC laws and regulations. Further, the information on the research report does not constitute "production and business activities in the PRC" under relevant PRC laws. This research report does not constitute a public offer of the security, whether by sale or subscription, in the PRC. Further, no legal or natural persons of the PRC may directly or indirectly purchase any of the security or any beneficial interest therein without obtaining all prior PRC government approvals or licenses that are required, whether statutorily or otherwise. Persons who come into possession of this research are required to observe these restrictions.

Notice to Canadian Investors: Under no circumstances is this research report to be construed as an offer to sell securities or as a solicitation of an offer to buy securities in any jurisdiction of Canada. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by Haitong International Securities (USA) Inc., a dealer relying on the “international dealer exemption” under National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations (“NI 31-103”) in Alberta, British Columbia, Ontario and Quebec. This research report is not, and under no circumstances should be construed as, a prospectus, an offering memorandum, an advertisement or a public offering of any securities in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon this research report, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence. Upon receipt of this research report, each Canadian recipient will be deemed to have represented that the investor is an “accredited investor” as such term is defined in section 1.1 of National Instrument 45-106 Prospectus Exemptions or, in Ontario, in section 73.3(1) of the Securities Act (Ontario), as applicable, and a “permitted client” as such term is defined in section 1.1 of NI 31-103, respectively.

Notice to Singapore investors: This research report is provided in Singapore by or through Haitong International Securities (Singapore) Pte Ltd (“HTISSPL”) [Co Reg No 201311400G. HTISSPL is an Exempt Financial Adviser under the Financial Advisers Act (Cap. 110) (“FAA”) to (a) advise on securities, units in a collective investment scheme, exchange-traded derivatives contracts and over-the-counter derivatives contracts and (b) issue or promulgate research analyses or research reports on securities, exchange-traded derivatives contracts and over-the-counter derivatives contracts. This research report is only provided to institutional investors, within the meaning of Section 4A of the Securities and Futures Act (Cap. 289). Recipients of this research report are to contact HTISSPL via the details below in respect of any matters arising from, or in connection with, the research report:

Haitong International Securities (Singapore) Pte. Ltd.
10 Collyer Quay, #19-01 - #19-05 Ocean Financial Centre, Singapore 049315
Telephone: (65) 6536 1920

Notice to Japanese investors: This research report is distributed by Haitong International Securities Company Limited and intended to be distributed to Financial Services Providers or Registered Financial Institutions engaged in investment management (as defined in the Japan Financial Instruments and Exchange Act ("FIEL") Art. 61(1), Order for Enforcement of FIEL Art. 17-11(1), and related articles).

Notice to UK and European Union investors: This research report is distributed by Haitong International Securities Company Limited. This research is directed at persons having professional experience in matters relating to investments. Any investment or investment activity to which this research relates is available only to such persons or will be engaged in only with such persons. Persons who do not have professional experience in matters relating to investments should not rely on this research. Haitong International Securities Company Limited's affiliates may have a net long or short financial interest in excess of 0.5% of the total issued share capital of the entities mentioned in this research report. Please be aware that any report in English may have been published previously in Chinese or another language.

Notice to Australian investors: The research report is distributed in Australia by Haitong International Securities (Singapore) Pte Ltd, Haitong International Securities Company Limited, and Haitong International Securities (UK) Limited in reliance on ASIC Class Order 03/1102, 03/1103 or 03/1099, respectively, which exempts those HTISG entities from the requirement to hold an Australian financial services license under the Corporations Act 2001 in respect of the financial services it provides to wholesale clients in Australia. A copy of the ASIC Class Orders may be obtained at the following website, www.legislation.gov.au. Financial services provided by Haitong International Securities (Singapore) Pte Ltd, Haitong International Securities Company Limited, and Haitong International Securities (UK) Limited are regulated under foreign laws and regulatory requirements, which are different from the laws applying in Australia.

Notice to Indian investors: The research report is distributed by Haitong Securities India Private Limited ("HSIPL"), an Indian company and a Securities and Exchange Board of India ("SEBI") registered Stock Broker, Merchant Banker and Research Analyst that, inter alia, produces and distributes research reports covering listed entities on the BSE Limited ("BSE") and the National Stock Exchange of India Limited ("NSE") (collectively referred to as "Indian Exchanges").

Name of the entity: Haitong Securities India Private Limited
SEBI Research Analyst Registration Number: INH000002590

APPENDIX 2

Address : 1203A, Floor 12A, Tower 2A, One World Center

841 Senapati Bapat Marg, Elphinstone Road, Mumbai 400 013, India

CIN U74140MH2011FTC224070

Ph: +91 22 43156800 Fax:+91 22 24216327

Details of the Compliance Officer and Grievance Officer : Prasanna Chandwaskar : Ph: +91 22 43156803; Email id: prasanna.chandwaskar@htisec.com

“Please note that Registration granted by SEBI and Certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors”.

This research report is intended for the recipients only and may not be reproduced or redistributed without the written consent of an authorized signatory of HTISG.

Copyright: Haitong International Securities Group Limited 2019. All rights reserved.

<http://equities.htisec.com/x/legal.html>