2024.10.25 星期五

2024年度中国宝武低碳冶金创新基金项目指南发布

2 产业生态圈

一、2024年度中国宝武低碳冶金 创新基金项目指南

- 1. 炼铁用绿色炉料技术研究
- ◆ 非化石能源零碳造块技术开发
- ◆低碳冶金用炉料冶炼行为解析
- 2. 电熔分技术研究
- ◆中低品位金属炉料熔分技术研究
- ◆电熔分炉渣系研究
- ◆铁水质量调控技术研究
- 3. 冶金过程电加热技术研究
- ◆铁矿石电加热造块技术研究 ◆电加热炼焦技术研究
- ◆入炉料高温(1000-1400℃)电加热技

China Baowu has set up the Low- Carbon Metallurgy Innovation Fund since 2021, which provides RMB 35 million annually mainly to the fundamental and applied fundamental research of low- carbon metallurgy, promoting green and low- carbon development. The 2024 Project Guideline of China Baowu Low- Carbon Metallurgy Innovation Fund has been be released at the Global Low-Carbon Metallurgical Innovation Forum on October 23, 2024.

The Low- Carbon Metallurgy Innovation Fund (hereinafter referred to as the Low-Carbon Fund), established by China Baowu, aims to focus on the green and low-carbon metallurgical processes and technologies, subsidize the fundamental and applied fundamental research of low-carbon metallurgy and the exploration, major innovations and practices of low-carbon metallurgical processes and technologies, and support the progress in low-carbon metallurgy technologies and industrial transformation and upgrading.

In September 2024, China Baowu Low-Carbon Metallurgy Innovation Center (hereinafter referred to as the Low-Carbon Center) started to compile the 2024 Project Guideline of the Low-Carbon Fund. It collected opinions from all sectors of society on the project guideline, receiving 111 suggestions in total. After expert evaluation, 10 guideline directions have been finally determined and has been released on the Global Low-Carbon Metallurgy Innovation Forum 2024 on October 23.

This year's project guideline focuses on areas like the green raw material of low-carbon metallurgy, low-carbon fuel, biomass energy, comprehensive utilization of metallurgical resources, and carbon capture, utilization and storage (CCUS). It encourages the fundamental and applied fundamental research of new materials, new products, new technologies, and new processes in steel and related fields.

In the meantime, in response to the call of the Central Committee of the Communist Party of China (CPC) to strengthen the cultivation and utilization of young scientific and technological talents, China Baowu will continue to set up "youth projects" in this year's low- carbon fund project guide. The Youth Program focus-

- ◆钢坯和中间材电加热技术研究
- 4. 流态化全氢还原技术研究
- ◆铁矿粉流态化还原预处理技术研究
- ◆铁矿粉粘结机理及抑制技术研究 ◆铁矿粉流态化还原能效优化技术研究
- 5. 冶金流程协同处置固废减碳技术研究

◆钢铁厂内含铁、含碳、含氢资源高效循

- ◆城市有机废弃物资源消纳利用技术
- 6. 炼铁过程中化石燃料减量技术研究
- ◆提升化石燃料利用效率的预处理技术
- ◆冶炼过程化石能源的极致利用技术
- 7. 农林生物质协同钢铁降碳技术研究
- ◆农林生物质高效低耗提质及副产物高 值化利用技术研究
- ◆钢铁冶炼工序高效使用高品质生物质 炭技术研究
 - 8. 电炉全废钢冶炼高等级钢材技术研究
 - ●电炉冶炼过程钢水纯净度调空技术研究 炉外精炼钢水纯净度调控技术研究
- 9. 钢铁源 CO₂制备大宗高值化学品技术
- ◆钢铁源 CO₂捕集转化一体化技术研究
- ◆钢铁源 CO₂制大宗高值化学品(芳烃/ 烯烃等)的工艺技术开发

10. 青年项目

◆研究方向为低碳冶金基础与应用基础

- ◆选题不受本次指南方向限制
- ◆项目组全部成员(项目负责人、项目团 队成员、项目顾问、指导专家等)均要求年龄 为35岁以下,即1990年1月1日以后出生。

二、项目申报与联系方式

1.《中国宝武低碳冶金创新基金项目申 报和管理指南》与《中国宝武低碳冶金技术创 新基金项目申请书》下载方式:

中国宝武众研平台低碳基金栏目

网址:http://rd.baosteel.com/

2. 申请书提交方式: 登录中国宝武众研 平台,注册个人账号,在低碳基金栏目填写和 递交项目申请资料。网址:http://rd.baosteel.

3. 低碳基金项目申请系统开放时间(北 京时间):2024年12月1日8:00-12月31日 17:00,超过截止时间后系统关闭,不再接受

- 4. 联系人:卢正东
- 5. 咨询电话: 021-26641446

备注:对于前面三年指南已经资助过的 研究内容,低碳基金不再资助,请各位项目 申请人知晓。

中国宝武钢铁集团有限公司将根据项 目申请与评审情况择优资助。

Source CO₂

- ◆ Research on integrated technology of CO₂ capture and conversion from steel sources
- Development of process technology for producing high-value bulk chemicals (aromatics/olefins, etc.) from steel source CO2 10. Projects for young researchers
- Research direction is the fundamental and applied fundamental research of low-carbon
- ◆ Topics are not subject to the directions in the project guideline
- ◆ All members of the project team shall be born after January 1, 1990.

II. Project Application and Contact Information

- 1. Applicants can download the "Project Application and Management Guideline of China Baowu Low- Carbon Metallurgy Innovation Fund" and the "Project Application for China Baowu Low- Carbon Metallurgy Innovation Fund" from the official website of BAOWU OPEN INNOVATION at http://rd.baosteel.
- 2. Application submission method:Log in the BAOWU OPEN INNOVATION, register personal account and submit project application materials in the Low Carbon Fund section. Website:http://rd.baosteel.com/
- 3. Opening time of the low-carbon fund project application system(Beijing Standard Time): From 8:00 a.m. on 1 December, 2024 to 17: 00 p.m. on 31 December, 2024. The system will shut down and applications will no longer be accepted after the deadline.
- 4. Contact Person: Lu Zhengdong
- 5. Tel: 021-26641446

Note: Please note that, in principle, research that has been funded by the guidelines in the previous three years will not be funded by the Low-Carbon Fund.

China Baowu Steel Group Corporation will select and fund the outstanding projects according to the application and evaluation.



Release of the 2024 Project Guideline of China Baowu Low-Carbon Metallurgy Innovation Fund

es on the fundamental and applied fundamental research of low-carbon metallurgy, and its topics are not subject to the directions in the project guideline. Only young people under 35 years old are qualified for application. Aiming to encourage young scientific and technological talents to shoulder the responsibility and take the lead, the Youth Program guides young people to pay close attention to the national carbon peaking and carbon neutrality strategy and the demands of the steel industry and to contribute wisdom to achieving the carbon neutrality goal of the steel industry.

The 2024 Low-Carbon Fund will accept applications from 8:00 a.m. on 1 December, 2024 to 17:00 p.m. on 31 December, 2024 (Beijing Standard Time).

China Baowu Low-Carbon Metallurgy Innovation Fund is administered by the Low-Carbon Metallurgy Innovation Center of China Baowu Steel Group Corporation. According to the Guidelines for Application and Management of China Baowu Low Carbon Metallurgical Innovation Fund Projects, project applicants and supporting units should ensure that the project application materials, evaluation process, and operation process after receiving funding comply with scientific research integrity, academic norms, and ethical requirements. For projects that engage in research misconduct, if the project is in the application or review stage, China Baowu has the right to withdraw the project application; If the project is currently being implemented or has already been completed, China Baowu has the right to revoke the original funding decision and recover the allocated funds. The final interpretation of the investigation and handling opinions on academic misconduct belongs to China Baowu, and social supervision is welcome.

The project guideline and application method are listed as follows:

- 2024 Project Guidelines of China Baowu Low-Carbon Metallurgy Innovation Fund
- 1. Research on Green Charging Technolo-



- ◆ Development of zero carbon block making technology for non fossil energy sources ◆ Analysis of Smelting Behavior of Low Car-
- bon Metallurgical Furnace Materials 2. Research on Electric Melting Separation Technology
- Research on Melting and Separating Technology of Medium and Low Grade Metal Furnace Materials
- Research on Electric Melting Slag Separation System
- Research on Quality Control Technology of Molten Iron
- 3. Research on Electric Heating Technology in Metallurgical Processes
- Research on electric heating block making technology for iron ore ◆ Research on Electric Heating Coking
- ◆ Development of high-temperature (1000-1400 °C) electric heating technology for furnace materials
- Research on electric heating technology for steel billets and intermediate materials
- 4. Research on Fluidized Hydrogen Reduction Technology Research on fluidized reduction pretreat-
- ment technology for iron ore powder Research on the Bonding Mechanism and
- Inhibition Technology of Iron Ore Powder Research on Energy Efficiency Optimization Technology for Fluidized Reduction of

5. Research on Collaborative Disposal of

- Solid Waste and Carbon Reduction Technology in Metallurgical Processes ◆ Efficient recycling technology for iron, car-
- bon, and hydrogen resources in steel plants
- ◆ Urban organic waste resource utilization 6. Research on Fossil Fuel Reduction
- Technology in Ironmaking Process Pre treatment technology for improving
- the efficiency of fossil fuel utilization ◆ The ultimate utilization technology of fossil energy in the smelting process
- 7. Research on Carbon Reduction Technology of Steel Making Process with Agriculture and Forestry Biomass
- Research on High Efficiency, Low Consumption, and Quality Improvement of Agricultural and Forestry Biomass, as well as High Value Utilization Technology of By products
- Research on Efficient Use of High Quality Biochar Technology in Steel Smelting Processes 8. Research on the Technology of Smelting High Grade Steel from Whole Scrap Steel in Electric Furnace
- Research on Purity Control Technology of Molten Steel in Electric Furnace Smelting
- Research on Purity Control Technology of Refining Steel Outside the Furnace
- 9. Research on the Technology of Producing Bulk High Value Chemicals from Steel

马钢原料采购物流管控系统升级提效

■马钢记者 申婷婷 通讯员 邹 超

本报讯 点击采购询价,填写好采购物料详 情点等信息,勾选报价供应商,点击发送欧贝平 台……采购员只需打开页面,系统自动核出最低 报价。自8月底上线以来,经过一段时间的检验 优化,马钢原料采购物流管控系统4.0(以下简称 PLMS4.0)运行平稳。

以往,采购询价需经过电子邮件、集中开标 会议或跨系统操作,如今PLMS4.0上线,实现了 对采购的穿透式监督,以及信息化、智慧化功能 升级,满足了马钢个性化需求,为确保"精益、高 效、合规"采购、增强公司采购竞争力提供了强有 力的支撑。

在瞬息万变的市场形势下,必须强化精益管 理,才能不断提升运行效率和经营绩效水平。原 PLMS3.0系统于2021年上线,基本实现了马钢 大宗原燃料全品种采购业务全流程管理。为进 一步提高采购管理效率、风险防控和监督水平, 为马钢经营管理和生产管理提供有力支撑,系统 智慧化升级改造及新系统上线势在必行。

今年5月21日,PLMS4.0系统上线攻坚战拉 开帷幕。为确保系统功能符合马钢需求,并与制 造、财务等单元实现信息化对接,马钢与宝信软 件针对改造项目周期短、整合功能多、关联系统 多、集成接口多等特点,制定了详细的测试联调 计划和切换方案。同时,为确保业务运营平稳、 系统切换无感平滑,团队还制定了相关风险应对 预案,并提前对切换期间业务进行安排。

下阶段,马钢将持续深化对接原料市场,实 现不同语言、不同标准、不同平台、不同文化的数 据互换,进一步提升经营管理软实力。

(上接第1版) 现代生活至关重要。 在主题报告环节,共有五位国内外专

2024年全球低碳冶金创新论坛暨第九届宝钢学术年会举行

家作主旨演讲。世界钢协可持续发展部 部长安德鲁·普维斯认为,世界钢铁未来 需求适度增长,到2050年粗钢产量将达 到22亿吨至24亿吨,我们有责任承担社 会所期望的碳减排任务。不同的国家,不 同的起点、不同的境况,没有一条现成的 脱碳途径,合作才能够实现各方共赢。宝 武首席科学家李国保介绍了宝武绿色低 碳产品研发情况以及在支持交通、建筑、 能源、电力行业转型发展的全场景解决方 案。他认为,钢铁在推动碳中和社会中具 有无限可能,是经济社会碳减排的重要推 动者。安赛乐米塔尔副总裁、首席技术官 贝纳金博士介绍了安米集团全面布局的 智慧碳技术以及前瞻性的二氧化碳资源 化利用技术。他认为,钢铁行业的碳减 排没有一蹴而就的解决方案,需要不断 探索各种脱碳技术的组合,并在适当的 时间,根据区域的特点,选择合适的技 术,支撑净零排放目标的实现。JFE钢铁 副社长福岛裕法介绍了日本钢铁企业联 合研发的高炉、直接还原铁和电炉重大 工艺创新以及二氧化碳制甲醇技术、钢 渣固碳技术。他认为,努力实现碳中和 的过程,技术上存在着多条路径和众多 难题,当前很难看清楚哪条路径是最好 的。美国科罗拉多矿业学院著名冶金材 料学家约翰·斯皮尔教授介绍了美钢联、 纽柯和克利夫兰等美国钢铁企业的减碳 目标。他认为,美国钢铁企业在能源、短

流程工艺以及钢铁资源回收利用方面得

天独厚的优势决定了其碳减排方面的领

先地位,同时新的低碳钢铁产品概念对

会上,中国钢铁工业协会发布了第一 批符合标准的低碳排放钢大类产品(标准 核算边界到热轧):中国宝武宝钢股份宝 山基地热轧卷及无缝管、青山基地热轧 卷、湛江基地热轧卷,马钢集团马钢股份 粗钢(车轮),太钢集团太钢不锈热轧卷, 鞍钢集团热轧卷,首钢集团热轧卷。

宝武是低碳排放钢标准制定的积极 参与者,也是低碳技术、低碳产品研发的 积极探索者,正在努力成为低碳服务的 引领者。会上,宝武低碳品牌BeyondECO首发,何文波、胡望明共同启动首 发装置。宝武将"产品碳足迹降低比例 ≥30%"作为钢铁产品授权使用BeyondECO品牌的最低门槛值,经过严格审 定,发布了第一批使用BeyondECO品牌

2024年度低碳冶金创新基金项目 指南在会上发布。低碳冶金创新基金 自2021年面向全社会设立以来,受到社 会持续关注和广泛赞誉。截至目前,58 个项目获得低碳基金资助,资助总额 9523万元。今年的项目指南聚焦低碳 冶金绿色原料、低碳燃料、CCUS等多个 领域,也鼓励钢铁及相关领域新材料、 新产品、新技术、新工艺等的基础与应 用基础研究。

宝武高度重视人工智能大模型对钢 铁行业绿色低碳发展的支撑作用,以宝 钢股份为试点,由宝信软件联合集团内 外资源,研发了集平台、数据、算力、场 景、模型五位一体的钢铁大模型。会上 举行了宝联登钢铁行业大模型发布仪 式。中国钢铁工业协会党委副书记、副 会长兼秘书长姜维,宝武党委常委、副总 经理费鹏以及宝信软件党委书记、董事 长夏雪松上台共同发布。

本次大会为期3天,设置了绿色炼 铁、绿色炼钢、绿色轧钢、热系产品、汽车 产品、冷轧与硅钢产品、钢管产品、长材 产品、不锈钢、特种冶金材料、绿色产业、 智慧制造等12个技术分会场。分会场 围绕钢铁绿色制造、绿色产品、绿色产业 和智慧制造等专题,聚焦钢铁产业低碳 冶金工艺及产品变革中的热点问题开展 交流。报告专家来自中国、美国、英国 法国、德国、澳大利亚、日本和韩国等11 个国家、30个地区、80个单位共150多 位。大会期间还召开了全球低碳冶金包 新联盟年度工作会议,展示了低碳冶金 技术创新基金项目成果。

世界钢铁协会、中国钢铁工业协会 代表,安赛乐米塔尔、鞍钢集团、首钢集 团、河钢集团、JFE控股、湖南钢铁等著名 钢铁企业,中国钢研集团、中冶集团、普 锐特、西马克、法孚、力拓、必和必拓等钢 铁产业链知名企业代表,以及来自中国 科学院、清华大学、香港大学、复旦大学、 上海交通大学、哈尔滨工业大学、北京理 工大学、北京科技大学、东北大学、中南大 学、重庆大学、上海大学、武汉科技大学 美国科罗拉多矿业学院、德国多特蒙德工 业大学、英国伯明翰大学、莱斯特大学、华 威大学、澳大利亚伍伦贡大学、莫纳什大 学、卧龙岗大学、迪肯大学等学术机构的 专家学者;宝武党委常委、总会计师兼董 事会秘书朱永红,宝武党委常委、纪委书 记、国家监委驻中国宝武监察专员孟庆 旸,宝武党委常委、副总经理高建兵,总部 部门负责人、各子公司主要领导以及300 多名科技人员代表在现场参加大会。

鄂城钢铁原料采购物流管控系统上线

■通讯员 邵中桥

新闻

链接

本报讯 经过多轮测试与精心准备,近日, 中南钢铁鄂城钢铁原料采购物流管控系统,即 PLMS4.0系统成功上线运行。

PLMS4.0系统作为宝武新一代原料采购物 流管控平台,集成了先进的信息化和智能化技 术,实现了从供应商协同、采购预案、采购询价、 合同签订、订单生成、物流配送到验收结算的全 流程闭环管理,极大地提高了工作效率,规范了 原料采购业务流程。

在PLMS4.0系统的开发过程中,鄂城钢铁 营销中心与宝信软件紧密协作,克服了时间

紧、任务重 的困难,确 向"新"而行 保了系统 "创"启示法 的顺利上

PLMS4.0 系统以"同一语言、同一标准、同一平台、同一文化"的信息化覆盖方式进行 原料采购专业化整合,可满足国家审计署、国资委对大宗原料采购的管理要求,加强采 购过程管控,提高采购规范水平和防风险能力,还能实现全流程穿透式监督,为企业的 高效合规运营提供了强有力的支持。