

<p>关于推动钢铁工业高质量发展的指导意见</p>	<p>Guiding Opinions on Promoting High-Quality Development of the Steel Industry</p>
<p>(征求意见稿)</p>	<p>(Draft for comments)</p>
<p>钢铁工业是我国国民经济的重要基础产业，是建设现代化强国的重要支撑，是实现绿色低碳发展的重要领域。“十三五”时期，我国钢铁工业深入推进供给侧结构性改革，化解过剩产能取得显著成效，产业结构更加合理，绿色转型、智能制造、国际合作取得积极进展，有效支撑了中国经济社会健康发展。进入“十四五”时期，我国钢铁工业要实现高质量发展，仍然存在产能过剩压力、产业安全缺乏保障、生态环境制约、产业集中度偏低等问题。为贯彻落实《中共中央关于制定国民经济和社会发展第十四个五年规划和二〇三五年远景目标的建议》，更好地推动钢铁工业高质量发展，提出以下意见。</p>	<p>The steel industry is an important basic industry of the national economy [literally: my country's national economy], an important support for building a modern and powerful country, and an important field for achieving green and low-carbon development. During the 13th Five-Year Plan period, the national [lit.: my country's] steel industry deepened its supply-side structural reforms, achieved remarkable results in resolving excess capacity, the industrial structure became more reasonable, and positive progress was made in green transformation, smart manufacturing, and international cooperation, thus effectively supporting the healthy development of China's economy and society. Entering the 14th Five-Year Plan period, the national [lit.: my country's] steel industry still faces problems to achieve high-quality development as problems, such as overcapacity pressure, insufficient industrial safety, limitation of the ecological environment and low industrial concentration persist. In order to implement the <i>Recommendations of the Central Committee of the Communist Party of China on Formulating the Fourteenth Five-Year Plan for National Economic and Social Development and Long-Term Goals for 2035</i> and to better promote the high-quality development of the steel industry, the following opinions are put forward.</p>
<p>一、总体要求</p>	<p>I. General requirements</p>
<p>(一) 指导思想。</p>	<p>(1) Guiding ideology.</p>
<p>坚持以习近平新时代中国特色社会主义思想为指导，深入贯彻党的十九大和十九届二中、三中、四中、五中全会精神，坚持新发展理念，坚持稳中求进工作总基调，以推动高质量发展为主题，以深化供给侧结构性改革为主线，以改革创新为根本动力，以满足国民经济建设和人民日益增长的美好生</p>	<p>Adhere to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implement the spirit of the 19th National Congress of the Communist Party of China as well as the 2nd, 3rd, 4th, and 5th Plenary Sessions of the 19th Central Committee of the Communist Party of China, adhere to the new development concept, and adhere to the general tone of the work of seeking progress while maintaining stability. Taking the promotion of high-quality development as the theme, deepening supply-side structural reform as the main line and taking reform and innovation as the</p>

<p>活需要为根本目的，统筹发展和安全，更好融入以国内大循环为主体、国内国际双循环相互促进的新发展格局，发挥市场配置资源的决定性作用，更好发挥政府作用，加快构建现代化的钢铁产业体系，促进钢铁行业质量效益全面提升，为全面实现我国钢铁工业由大到强历史性跨越打下坚实基础。</p>	<p>fundamental driving force and taking the requirements of national economic construction and the people's growing needs for a better life as the fundamental goal, coordinate development and security. Better integrate into the new development pattern with the domestic big cycle as the main body and the domestic and international double cycles promoting each other. Give play to the decisive role of market allocation of resources, better play the role of the government, accelerate the construction of a modern steel industry system, and promote the overall improvement of the quality and efficiency of the national [lit.: my country's] steel industry. Lay a solid foundation to fully realize the historical leap of China's steel industry from large to strong.</p>
<p>(二) 基本原则。</p>	<p>(2) Basic principles.</p>
<p>坚持新发展理念。牢固树立“创新、协调、绿色、开放、共享”的新发展理念，切实转变发展方式，突出创新驱动引领、产业结构协调优化、全生命周期绿色低碳发展、更高水平对外开放、共建共享产业发展成就，实现更高质量、更有效率、更加公平、更为安全、更可持续发展。</p>	<p>Adhere to the new development concept. Firmly establish the new development concept of “innovation, coordination, green, openness, and sharing” and effectively transform the development mode. Highlight innovation-driven leadership, the optimization of industrial structure, full life cycle green and low-carbon development, high level of opening to the outside world, joint construction and sharing Industrial development achievements have achieved higher quality, more efficient, fairer, safer and more sustainable development.</p>
<p>坚持改革开放。坚定不移推进改革和扩大开放，以开放促改革，以改革促发展，深化要素配置改革，优化资源配置保障，破除制约行业高质量发展的体制机制障碍，构建法治科学、高效活跃、覆盖全面、保障有力的钢铁行业现代化运行体系，在全球钢铁产业治理体系中发挥更大作用。</p>	<p>Persist in reform and opening up. Unswervingly advance reforms and expand opening up. Promote reforms through opening up, promote development through reforms, deepen the reform of factor allocation, optimize resource allocation guarantees, remove institutional barriers that restrict the high-quality development of the industry. Build a modern operation system for the steel industry that is based in science, governed by law, efficient, active, comprehensive and effectively guaranteed. Play a greater role in the global steel industry governance system.</p>
<p>坚持市场导向。充分发挥市场在资源配置中的决定性作用，尊重企业市场主体地位和决策</p>	<p>Adhere to market orientation. Give full play to the decisive role of the market in the allocation of resources, respect the status of corporate market players and decision-making autonomy. Give</p>

<p>自主权，更好发挥政府作用，守正创新保持政策稳定性和前瞻性，推动有效市场和有为政府更好结合，构建公平有序的市场竞争秩序，营造良好的发展环境。</p>	<p>better play to the role of the government, maintain integrity and innovation, maintain policy stability and forward-looking, promote a better combination of effective markets and effective governments, and construct a fair and orderly market competition order and create a good development environment.</p>
<p>坚持统筹协调。秉承系统观念推进高质量发展，坚持全国一盘棋，统筹协调国家与地方、行业与企业各方面关系，充分调动各方面积极性，发挥集中力量办大事的优势，着力固根基、扬优势、补短板、强弱项，重点突破影响钢铁行业产业链、供应链安全的重大问题，实现发展质量、结构、规模、速度、效益、安全相统一。</p>	<p>Adhere to overall coordination. Adhere to the systemic concept of promoting high-quality development, adhere to a national coordination effort. Coordinate the relationship between the state and localities, industries and enterprises. Fully mobilize the polarities of all parties and give full play to the advantages of concentrating forces to do major events. Focus on solid foundation, promote advantages, make up for shortcomings, cultivate strengths and reinforce weak points. Focus on breaking through major issues that affect the safety of the steel industry's industrial chain and supply chain, and achieve the unity of development quality, structure, scale, speed, efficiency and safety.</p>
<p>（三）主要目标。</p>	<p>(3) Main goals.</p>
<p>力争到 2025 年，钢铁工业基本形成产业布局合理、技术装备先进、质量品牌突出、智能化水平高、全球竞争力强、绿色低碳可持续的发展格局，具体目标如下：</p>	<p>Until 2025, strive for the steel industry to basically form a development pattern of reasonable industrial layout, advanced technology and equipment, outstanding quality brands, high levels of smart manufacturing, strong global competitiveness, green, low-carbon and sustainable development. The specific goals are as follows:</p>
<p>1. 产业基础。产业基础进一步夯实，产业链现代化水平明显提升，产能利用率保持在合理区间。装备水平大幅提升，先进水平焦炉产能占比达到 70%以上，先进炼铁、炼钢产能占比均达到 80%以上。智能制造水平显著增强，关键工序数控化率达到 80%左右，生产设备数字化率达到 55%，打造 50 个以上智能工厂。</p>	<p>1. Industrial foundation. Further consolidate the industrial foundation, significantly improve the modernization level of the industrial chain and keep the capacity utilization rate within a reasonable range. Greatly improve the technology level of plant equipment. The cumulative production capacity of advanced coke ovens shall account for over 70%, the cumulative production capacity of advanced iron- and steelmaking shall exceed 80%. Smart manufacturing levels shall be enhanced significantly. In key processes the application of numerical control shall reach approximately 80%, at least 55% of production equipment shall be IT controlled. More than 50 smart factories shall be established.</p>

<p>2. 创新发展。促进各类创新要素向企业集聚，加快推进产学研用协同创新，促进科技创新成果转化应用。行业研发投入强度达到 1.5%，每年突破 3-5 种关键短板钢铁材料，钢铁短板材料比重下降到 1% 以下，实现关键钢铁材料的自主保障。氢冶金、非高炉炼铁、洁净钢冶炼、无头轧制等前沿技术取得突破进展。</p>	<p>2. Innovation and development. Promote the agglomeration of various innovative elements in enterprises. Accelerate and promote the collaborative innovation spanning industry, education, research and application, and promote the transformation and application of scientific and technological innovation results. The industrywide R&D investment intensity shall reach 1.5%. Every year, accomplish breakthroughs in the development 3-5 key steel materials characterized by insufficient domestic supply and squeeze the proportion of such materials below 1% of all steel materials. Realizing and guarantee supply independence with regard to key steel materials. Achieve breakthroughs in cutting-edge technologies, such as hydrogen metallurgy, non-blast furnace ironmaking, clean steel smelting and endless rolling.</p>
<p>3. 资源保障。推动产业链、供应链多元化，铁、锰、铬等矿石资源保障能力显著增强，其中铁金属国内自给率达到 45% 以上，国内年产废钢资源量达到 3 亿吨，打造 1-2 个具有全球影响力和市场竞争力的海外权益铁矿山，海外权益铁矿占进口矿比重超过 20%。</p>	<p>3. Resource guarantee. Promote the diversification of the industrial chain and supply chain. Substantially enhance the guaranteed supply of iron, manganese, chromium and other ore resources. For iron, the domestic self-sufficiency rate shall exceed 45%. The annual domestic production of scrap steel resources shall reach 300 million tons. Establish equity control in 1-2 overseas iron mines with global influence and market competitiveness. Iron ore imports from these mines shall account for more than 20% of all imported ore.</p>
<p>4. 产业结构。产业布局更加合理，产业集聚化发展水平明显提升。打造若干家世界超大型钢铁企业集团以及专业化一流企业，力争前 5 位钢铁企业产业集中度达到 40%，前 10 位钢铁企业产业集中度达到 60%；电炉钢产量占粗钢总产量比例提升至 15% 以上，力争达到 20%；废钢比达到 30%。</p>	<p>4. Industrial structure. The industrial layout shall be more reasonable and the level of industrial agglomeration shall improve significantly. Establish several world-class, super-large steel enterprise groups with first rate professional capabilities. Strive to achieve industrial concentration with the top five steel enterprises accounting for 40% and the top ten enterprises accounting for 60%. Raise the steel output from electric furnace to account at least 15% of total crude steel production and strive to bring the ratio to 20%. The utilization ratio of scrap ratio shall reach 30%.</p>
<p>5. 绿色低碳。推进产业间耦合发展，构建跨资源循环利用体系，力争率先实现碳排放达</p>	<p>5. Green and low-carbon. Promote interconnected development across industries. Establish a cross-resource recycling system. Strive to take the lead in passing the CO2 emissions</p>

<p>峰。行业超低排放改造完成率 达到 80%以上，重点区域内企业全部完成超低排放改造，污染物排放总量降低 20%以上，能源消耗总量和强度均降低 5%以上，水资源消耗强度降低 10%以上，水的重复利用率达到 98%以上。</p>	<p>peak. The industry’s ultra-low emission transformation shall be at least 80% complete, and all enterprises in key areas shall have completed ultra-low emission transformation. Reduce total pollutant emissions by more than 20%, reduce total energy consumption and intensity by more than 5%, reduce water consumption intensity by more than 10% and increase the water reuse rate beyond 98%.</p>
<p>6. 质量效益。产品质量性能和稳定性进一步提升，钢材实物质量总体达到国际先进水平。产量达到供需动态平衡，行业平均劳动生产率 达到 1200 吨钢/人·年，新建普钢企业达到 2000 吨钢/人·年。行业利润率达到制造业平均水平。</p>	<p>6. Quality and efficiency. Product quality performance and stability shall be further improved, and the overall quality of steel materials shall reach advanced international levels. Output shall reach a dynamic supply-demand balance. The industry’s average labour productivity shall reach 1,200 tons of steel per person-and year. In newly-built general steel enterprises, labour productivity shall reach 2,000 tons of steel per person-and year. The industry’ profit margin shall reach the manufacturing industry’s average.</p>
<p>二、主要任务</p>	<p>II. Main tasks</p>
<p>（四）增强行业创新能力。强化企业创新主体地位，充分调动钢铁产业链上下游创新资源，营造产学研用为一体的协同创新生态。积极拓展创新投入的社会化渠道，鼓励行业探索建立创新风险基金，激发全行业创新活力。采取“揭榜挂帅”等方式，推动行业公共服务创新平台建设，搭建重点用钢领域创新联盟，重点围绕低碳冶金、洁净钢冶炼、高效轧制、基于大数据的流程管控、节能环保等关键共性技术，以及先进电弧炉、特种冶炼、高端检测等通用专用装备和零部件，加大创新资源投入，鼓励关键装备技术集成创新，实现技术突破和引领。鼓励有条件的地方在钢铁领域谋划建设区</p>	<p>(4) Enhance the industry’s innovation capabilities. Strengthen the dominant position of enterprises as the main bodies pursuing innovation and fully mobilize innovation resources of the steel industry both upstream and downstream. Create a collaborative innovation ecosystem that integrates industry, education, research and application. Actively expand the social channels of innovation investment, encourage the industry to explore the establishment of innovation risk funds, and stimulate the innovation vitality of the entire industry. Adopt methods such as “revealing the rankings” [a.k.a. reward system for science and technology] to promote the construction of public service innovation platforms in the industry, and build innovative alliances in key steel use areas. Focus on key common use technologies, such as low-carbon metallurgy, clean steel smelting, high-efficiency rolling, process control based on big data, energy conservation and environmental protection as well as general purpose and specialized equipment and parts, such as advanced electric arc furnace, special smelting and high-end testing. Increase investment in innovation</p>

<p>域创新平台，积极争创国家级创新平台。鼓励企业从以产品为中心向以客户为中心转变，积极探索规模化定制、远程运维服务、网络化协同制造、电子商务等制造业新业态。加快供应链创新应用，发展全球领先的供应链企业。加强标准技术体系和创新能力建设，制定发布一批先进适用的行业标准，培育发展一批高水平的团体标准，快速满足市场和创新需求。深化人才发展体制机制改革，激发人才创新活力，培育造就更多国际一流的科技领军人才和创新团队。</p>	<p>resources, encourage integrated innovation of key equipment technology and achieve technological breakthroughs and leadership. Encourage qualified localities to plan and build regional innovation platforms in the steel sector, and actively strive to create national-level innovation platforms. Encourage enterprises to shift from product-centric to customer-centric perspectives, and actively explore new manufacturing formats, such as large-scale customization, remote operation and maintenance services, networked collaborative manufacturing and e-commerce. Speed up the application of supply chain innovations and cultivate the world's leading supply chain enterprises. Strengthen the establishment of systems for technology standards and innovation capabilities. Formulate and publish several advanced and applicable industry standards. Cultivate and develop a number of high-level group standards and quickly meet market and innovation needs. Deepen the reform of talent development systems and mechanisms, stimulate the vitality of talent innovation and cultivate more world-class leading science and technology talents and innovative teams.</p>
<p>（五）严禁新增钢铁产能。严格落实钢铁产能置换、项目备案等相关规定，严禁新建扩大冶炼产能项目，不得以机械加工、铸造、铁合金等名义新增钢铁产能。强化要素约束，严格执行环保、能耗、质量、安全、技术等法律法规，利用综合标准依法依规推动落后产能退出，严防“地条钢”死灰复燃和已化解过剩产能复产。分类施策处置僵尸产能，做到“应退尽退、应退早退”，未重组或未清算的“僵尸企业”产能不得用于产能置换。引导钢铁企业摒弃以量取胜的粗放发展方式，逐步建立以碳排放、污染物排放、能耗总量、</p>	<p>(5) Increasing iron and steel capacity is strictly forbidden. Strictly implement relevant regulations on steel capacity replacement, project filing, etc. It is strictly forbidden to build new smelting capacity expansion projects and no capacity increase is allowed as part of projects related to processing, casting, ferroalloy etc. Strengthen factor constraints, strictly implement environmental protection, energy consumption, quality, safety, technology and other laws and regulations. Use comprehensive standards to promote the withdrawal of outdated production capacity in accordance with laws and regulations, and strictly prevent the resurgence of low-grade steel or the resumption of production at plants earmarked for elimination. Strategies to dispose of zombie production capacity shall be implemented to ensure that the production capacity of zombie enterprises that have not been restructured or liquidated cannot be used for capacity replacement. Guide steel companies to abandon the extensive development method</p>

<p>产能利用率等为依据的产量约束机制。健全防范产能过剩长效机制工作机制，畅通举报渠道，强化联合执法，建立健全钢铁产能管控电子地图，加强钢铁行业预警，充分利用卫星监测、区块链、大数据等技术手段，加大违法违规新增钢铁产能行为的查处力度，持续保持高压打击态势，巩固钢铁去产能工作成果。</p>	<p>of winning by quantity, and gradually establish a production restriction mechanism based on carbon emissions, pollutant emissions, total energy consumption and capacity utilization. Improve the long-term work mechanism for preventing overcapacity, unblock reporting channels and strengthen joint law enforcement. Establish and improve electronic maps for steel production capacity control and strengthen the early warning of the steel industry. Make full use of satellite monitoring, blockchain technology, big data applications and other means to increase the effectiveness of investigating violations of laws and regulations The efforts to investigate and deal with the increase in steel production capacity shall maintain a high-pressure attack to consolidate the achievements of steel production reduction work.</p>
<p>(六)优化调整产业布局。钢铁产业布局优化须符合国家及地方主体功能区规划、环境保护和相关产业政策要求。支持地方自行提高淘汰标准，加大结构调整力度，鼓励有环境容量、有市场需求、有资源能源保障、钢铁产能相对不足的地区承接钢铁转移产能，主要污染物排放总量指标可随产能转移，环境空气质量未达到要求的地区，不得作为主要污染物总量指标调入地。原则上不再布局新的沿海钢铁基地项目，鼓励新建钢铁冶炼项目依托现有生产基地集聚发展。对于确有必要新选址建设的钢铁冶炼项目，必须按照钢铁行业最先进工艺装备水平和最领先指标建设，研究明确沿海地区、非沿海地区新建高炉-转炉长流程、电弧炉短流程项目规模要求。现有城市钢厂应立足就地改造，达到超低排放要求的企</p>	<p>(6) Optimize and adjust the industrial layout. The optimization of the layout of the steel industry must meet the requirements of national and local functional zone planning, environmental protection and related industrial policies. Support local governments to raise their own elimination standards and increase structural adjustments. Encourage regions with environmental capacity, market demand, resource and energy security, and relatively insufficient steel production capacity to undertake the transfer of steel production capacity. The total emissions of major pollutants can be transferred with production capacity. Areas where the ambient air quality does not meet the requirements shall not receive incoming capacity transfers. In principle, no new coastal steel base projects shall be deployed, and new steel smelting projects shall be encouraged to rely on the existing production bases for cluster development. Steel smelting projects that necessarily have be constructed at new sites must be built in accordance with the most advanced technology and equipment level and the most advanced indicators of the steel industry. For such cases, study and clarify the scale requirements of the new blast furnace-converter long process and electric arc furnace short process facilities in coastal and non-coastal areas. Existing urban steel mills shall be renovated on-site, and companies that meet the ultra-low</p>

<p>业原则上不搬不关不停不限；对于达不到超低排放要求、竞争力弱的城市钢厂，应立足于就地压减退出；对于同一省（区、市）内搬迁项目，要审慎决策、科学论证，广泛征求社会各方意见，避免“一刀切”搬迁乱象。</p>	<p>emission requirements shall not move or shut down in principle. Urban steel mills that do not meet the ultra-low emission requirements and relatively uncompetitive ones shall reduce capacity or withdraw from the market. For relocation projects within the same province (autonomous region, municipality), careful decision-making, scientific demonstration and extensive solicitation of opinions from all sectors of society shall be undertaken to avoid a “one size fits all” relocation chaos.</p>
<p>（七）加快推进兼并重组。进一步深化混合所有制改革，推动行业龙头企业实施兼并重组，组建并打造若干世界一流超大型钢铁企业集团。依托行业优势企业，在不锈钢、特殊钢、无缝钢管、铸管等细分领域分别培育 1-2 家世界级专业化引领型企业。推进区域内钢铁企业兼并重组，从根本上改变部分地区钢铁产业“小散乱”局面，提升产业集中度。鼓励钢铁企业加强与上下游企业协作，提升产业链整体竞争优势。有序引导京津冀及周边地区独立热轧和独立焦化企业参与钢铁企业兼并重组。全面清理和废止不利于兼并重组和妨碍公平竞争的有关规定，创造有利于兼并重组的市场环境。完成实质性兼并重组的企业进行冶炼项目建设时执行差别化产能置换支持政策，落实税收优惠政策和相应财务会计制度。鼓励金融机构按照风险可控、商业可持续原则，积极向实施兼并重组、布局调整、转型升级的钢铁企业提供综合性金融服务。</p>	<p>(7) Speed up the promotion of mergers and acquisitions. Further deepen mixed ownership reforms, promote the merger and reorganization of leading enterprises in the industry, and establish and build several world-class super-large steel enterprise groups. Relying on advantageous enterprises in the industry, 1-2 world-class specialized leading enterprises shall be cultivated in subdivisions such as stainless steel, special steel, seamless steel pipe and cast pipe. Promote the merger and reorganization of steel enterprises in the region, fundamentally change the “small-sized, scattered and low-end” situation of the steel industry in some areas, and increase the industrial concentration. Encourage steel companies to strengthen collaboration with upstream and downstream companies to enhance the overall competitive advantage of the industrial chain. Guide independent hot rolling mills and independent coking enterprises in the Beijing-Tianjin-Hebei region and surrounding areas to participate in the mergers and reorganizations of steel enterprises in an orderly manner. Thoroughly clean up and abolish regulations that are not conducive to mergers and reorganizations and that hinder fair competition and create a market environment not conducive to mergers and reorganizations. Implement differentiated capacity replacement support policies when companies that have completed substantive mergers and reorganizations carry out the construction of smelting projects. Implement preferential tax policies and corresponding financial accounting systems. Encourage financial institutions to actively provide comprehensive financial services</p>

	<p>to steel enterprises that implement mergers and reorganizations, layout adjustments, and transformation and upgrading in accordance with the principles of controllable risks and sustainable business.</p>
<p>(八) 有序引导短流程炼钢。更好发挥电弧炉短流程炼钢企业绿色低碳、市场调节的作用，有序引导电弧炉短流程炼钢发展。对短流程炼钢执行差别化产能置换支持政策，鼓励具有废钢、电价、市场等优势条件的高炉-转炉长流程钢厂通过就地改造转型发展电弧炉短流程炼钢。积极发展拥有核心自主知识产权的新型电弧炉装备，加快制定短流程炼钢标准，完善相关标准体系。支持优势钢铁企业等牵头成立大型废钢回收加工配送中心，推进废钢回收、拆解、加工、分类、配送一体化发展，进一步完善废钢加工配送体系建设。在短流程炼钢企业和废钢加工配送企业中分别遴选 5-10 家优势标杆企业，形成可推广的产业模式。推动废钢现货、期货平台建设，促进形成公开透明有序的废钢定价机制。鼓励有条件地区积极探索废钢铁产业数字化平台建设，为推动行业规范发展、实现废钢在线交易和税票监管提供支撑。在符合国家法律、法规和相关产业政策要求的基础上，允许在城市建成区外符合条件的园区内建设短流程钢铁项目。鼓励有条件的地方先行先试，以大用户跨区域直购电、煤电钢联</p>	<p>(8) Guide short-process steelmaking in an orderly manner. Give better play to the role of electric arc furnace short-process steelmaking enterprises in green, low-carbon and market regulation, and guide the development of electric arc furnace short-process steelmaking in an orderly manner. Implement differentiated support policies for production capacity replacement for short-process steelmaking. Encourage steel mills with advantageous conditions such as scrap steel, electricity prices, and market potential that rely on blast furnace-converter long-process steelmaking to develop electric arc furnace short-process steelmaking through on-site transformation. Actively develop new electric arc furnace equipment with core independent intellectual property rights. Accelerate the formulation of standards for short-process steelmaking, and improve the relevant standards system. Support superior steel companies and others to take the lead in establishing large-scale scrap recycling, processing and distribution centres. Promote the integrated development of scrap steel recycling, dismantling, processing, classification and distribution. Further improve the construction of scrap steel processing and distribution systems. Select 5-10 superior benchmarking companies from short-process steelmaking companies and scrap steel processing and distribution companies to form a scalable industry model. Promote the construction of scrap steel spot and futures trading platforms, and promote the formation of an open, transparent and orderly scrap pricing mechanism. Encourage qualified regions to actively explore launching digital platforms for the scrap steel industry in order to promote the development of industry standards, realize online scrap trading and tax receipt supervision. Short-process steel plants that fully comply with the requirements of national laws, regulations and relevant industrial policies may be built in qualified parks outside urban built-up areas.</p>

<p>营、专线供电试点等方式，降低电炉炼钢用电成本。</p>	<p>Encourage places with suitable conditions to take the lead and reduce the electricity cost of electric furnace steelmaking by means of direct inter-regional electricity purchase by large users, joint operation of coal, electricity and steel, and pilot dedicated power supply lines.</p>
<p>（九）深入推进绿色低碳。深入推进钢铁工业绿色制造体系建设，提升能源资源利用效率和绿色化水平。全面普及烧结烟气循环、机械化原料场、高炉煤气精脱硫、烧结机头高效脱硫脱硝等技术应用，加快推广熔融钢渣余热回收、中低温余热利用等技术。支持建设钢铁低碳冶金创新联盟，加强对氢能冶炼、非高炉炼铁以及碳捕获、利用与封存等低碳冶炼技术的研发应用力度。构建钢铁生产全过程碳管控监测与评估集成创新体系，推进钢铁行业碳排放权市场化交易。积极推进钢铁与建材、电力、化工、有色等产业的耦合发展，加强固体废弃物精细化分级分类利用、综合废水高效回用。大力推进城市生活污水、雨水、海水、矿井水等非常规水源利用，减少新水取用量。在钢铁行业加快推广应用减少工业固废产生、降低工业固废危害性的生产工艺和设备，提高钢渣等固废资源利用效率。推动信息技术与先进节能环保技术紧密结合，实现产品从设计、生产、应用到回收的闭环追溯。全面推动钢铁行业超低排放改造，在行业内遴选 10 家以上绿色工厂。重点加快推进京津冀及周边地区、汾渭平</p>	<p>(9) Deepen the promotion of green and low-carbon operation. Deeply promote the construction of a green manufacturing system in the steel industry, and improve the efficiency of energy resource utilization and the level of greening. Comprehensively popularize technical applications, such as sintering flue gas recovery, mechanized raw material yards, the desulfurization of blast furnace gas, and high-efficiency desulfurization and denitration of sintering heads. Accelerate the promotion of technologies, such as waste heat recovery from molten steel slag and medium and low temperature waste heat utilization. Support the construction of low-carbon metallurgical innovation alliances for steel. Strengthen the R&D and application of low-carbon smelting technologies, such as hydrogen smelting, non-blast furnace ironmaking and carbon capture, utilization and storage. Establish an integrated innovation system for carbon control, monitoring and evaluation in the entire production process. Promote market-oriented trading of carbon emission rights in the steel industry. Actively promote the coupled development of steel and building materials, electric power, chemicals, non-ferrous metals and other industries. Strengthen the refined classification and utilization of solid waste and the efficient reuse of comprehensive wastewater. Vigorously promote the utilization of unconventional water sources, such as urban sewage, rainwater, seawater, and mine water, and reduce the amount of fresh water utilized. Accelerate the promotion and application of production processes and equipment that reduces the generation of industrial solid waste and reduces the hazard of industrial solid waste in the steel industry. Improve the utilization efficiency of solid waste resources such as steel slag. Promote the close integration of information technology with advanced energy-saving and environmental</p>

<p>原钢铁企业外部运输“公转铁”，率先实现清洁运输。强化企业达到污染物超低排放标准的刚性约束，各地可结合自身实际明确钢铁企业实现超低排放改造的期限，对未按期达标的钢铁企业一律停产，改造达标后方可生产。探索建立正向激励和反向倒逼机制，对不同环保治理水平的企业实施差别化产业政策。推动绿色消费，以超大、特大和大城市新建公共建筑为重点，加快钢结构建筑推广应用；鼓励钢铁企业引入产品全生命周期绿色发展理念，建立健全钢铁绿色设计产品评价体系，大力推广绿色设计产品，为下游用户提供绿色用钢解决方案，引导下游产业用钢升级，促进优质、高强、长寿命、可循环的钢铁产品应用。</p>	<p>protection technologies to realize the closed-loop traceability of products from design, production, application to recycling. Fully promote the ultra-low emission transformation of the steel industry, and select more than 10 green factories in the industry. Focus on accelerating the transition from road-to-rail transportation of steel enterprises in the Beijing-Tianjin-Hebei region and surrounding areas as well as in the Fenwei Plain, and take the lead in realizing clean transportation. Strengthen the binding character of ultra-low pollution emission standards of enterprises. Every region can clarify the deadline for steel enterprises to complete ultra-low emission transformation based on their actual conditions, and all steel enterprises that fail to meet the standards shall suspend production until they can meet the standards. Explore the establishment of positive incentive and reverse force mechanisms, and implement differentiated industrial policies for companies with different levels of environmental protection governance. Promote green consumption, focusing on newly built public buildings in super-large, extra-large and large cities. Accelerate the promotion and application of steel structure buildings. Encourage steel companies to introduce the concept of green development throughout the product life cycle. Establish and improve green design product evaluation systems and vigorously promote green design products to provide downstream users with green steel solutions, guide downstream industries to steel upgrades, and promote the application of high-quality, high-strength, long-life, and recyclable steel products.</p>
<p>（十）大力发展智能制造。推动数字产业与钢铁产业深度融合，开展钢铁行业智能制造行动计划，推进 5G、工业互联网、人工智能、区块链、商用密码等技术在钢铁行业的应用，突破一批智能制造关键共性技术，遴选一批推广应用场景，形成一批高水平专业化系统解决方案供应商，培育一批智能制造系统解决方案服务</p>	<p>(10) Vigorously develop intelligent manufacturing. Promote the deep integration of the IT industry and the steel industry. Carry out the smart manufacturing action plan for the steel industry. Promote the application of 5G, industrial Internet, artificial intelligence, blockchain, commercial cryptography and other technologies in the steel industry. Achieve breakthroughs in a batch of key common use technologies for smart manufacturing. A batch of application scenarios shall be promoted, a batch of high-level specialized system solution providers shall be formed, and a batch of smart</p>

<p>商。开展智能制造示范推广，发挥行业骨干企业示范引领作用，打造一批具有自感知、自学习、自决策、自执行能力的标杆工厂。建设钢铁行业大数据中心，开展数据价值评估和价值挖掘，探索数据要素共享机制，提升数据资源管理和服务能力。依托龙头企业推进多基地协同制造，在工业互联网框架下实现全产业链优化，推动上下游信息共享、资源共享、设计共享、生产共享。构建钢铁行业智能制造标准体系，积极开展基础共性、关键技术和行业应用标准研究，制定一批钢铁行业智能制造标准。</p>	<p>manufacturing system solution service providers shall be cultivated. Carry out the demonstration and promotion of smart manufacturing and give play to the leading role of the industry's backbone enterprises. Build a batch of benchmark factories with self-awareness, autonomous learning, autonomous decision-making and autonomous execution capabilities. Build a big data centre in the steel industry. Carry out data value evaluation and value mining, explore data element sharing mechanisms, and improve data resource management and service capabilities. Relying on leading enterprises to promote multi-base collaborative manufacturing, realize the optimization of the entire industrial chain under the industrial internet framework. Promote upstream and downstream information sharing, resource sharing, design sharing, and production sharing. Establish a smart manufacturing standard system for the steel industry and actively carry out research on basic common use key technologies and industry application standards, and formulate a batch of smart manufacturing standards for the steel industry.</p>
<p>（十一）大幅提升质量效益。加快推动钢材产品提质升级，在海工船舶、能源装备、先进轨道交通及汽车、建筑、高性能机械用钢、金属制品等重要产品领域推进质量分级分类评价，着力打造一批“单项冠军”企业和产品，持续提高产品实物质量稳定性、可靠性和耐久性，钢材产品实物质量达到国际先进水平的比例超过60%。发挥好国家新材料生产应用示范平台作用，建立健全关键钢铁新材料上下游合作机制，搭建重点领域产业联盟。支持钢铁企业瞄准下游用钢产业升级与战略新兴产业发展方向，重点发展航空发动机用高温合金、高品质特殊钢、高性</p>	<p>(11) Significantly improve quality and efficiency. Accelerate the promotion of quality improvement and upgrading of steel products. Promote quality classification and evaluation in important product areas, such as marine engineering, energy equipment, advanced rail transit and automobiles, construction, high-performance machinery steel, metal products, and strive to create a group of "singular champion" enterprises and products. Continue to improve the stability, reliability and durability of products' physical quality, and raise the proportion of products, the physical quality of which reach advanced international levels to over 60%. Give full play to the role of the national production and application demonstration platform for new materials. Establish and improve upstream and downstream cooperation mechanisms for key new steel materials, and build industrial alliances in key areas. Support steel companies to target the upgrading of steel consuming downstream industries and the development of strategic emerging industry. Focus on the development of</p>

<p>能海洋工程用钢、高端装备用特种合金钢、核心基础零部件用钢等“特、精、高”关键品种，力争每年突破 3~5 种关键短板钢铁材料，持续提升有效供给能力和水平，满足航空航天、国防军工、海工船舶、能源装备、轨道交通等行业重大技术装备和重大工程的用钢需求。鼓励企业通过技术创新和管理创新，牢固树立质量为先、品牌引领意识，深入推进以用户为中心的服务型制造，提升产品和服务附加值，实现行业利润率达到制造业平均水平。加大钢铁行业降本减负力度，降低企业生产经营成本。</p>	<p>“special, refined and high” key product varieties, such as high-temperature-resistant alloys for aero-engines, high-quality special steels, high-performance marine engineering steels, special alloy steels for high-end equipment, and steels for core basic components. Every year, strive to achieve breakthroughs in 3-5 key steel materials characterized by insufficient domestic supply capabilities. Continue to improve the effective supply capacity and level, and meet the requirements of major technical equipment and major projects in the aerospace, defense and military, marine engineering, energy equipment, rail transit and other industries with regard to steel products. Encourage enterprises to firmly establish the awareness of quality first and brand leadership through technological innovation and management innovation. Deeply promote user-centric service-oriented manufacturing to enhance the added value of products and services. The industry’s profit margin shall reach the manufacturing industry average. Intensify efforts to reduce costs and burdens in the steel industry, and reduce production and operation costs of enterprises.</p>
<p>（十二）提高资源保障能力。充分利用国内国际两个市场两种资源，建立多元化、多渠道、多方式稳定可靠的原料供应基地，为我国钢铁工业持续健康发展提供有力支撑。推进国内重点在产矿山资源接续建设工作，支持一批竞争力强的国内矿山企业开展规模化、集约化开发，促进难选矿综合选别和利用技术应用，推进绿色矿山、智能矿山建设，加强铁矿行业规范管理，建立铁矿产能储备和矿产地储备制度，推进钒钛磁铁矿综合开发利用，强化国内矿产资源的基础保障能力。稳步推进境外资源开发利用，按照公平、公开、共赢的市场化原则，鼓励钢铁、交</p>	<p>(12) Improve the ability to guarantee resources. Make full use of the resources of both domestic and international markets to establish a stable and reliable raw material supply base that is diversified, multi-channel, and multi-method to provide strong support for the sustained and healthy development of the national [lit.: my country's] steel industry. Promote the continuous construction of domestic key mining resources, support a group of competitive domestic mining enterprises to carry out large-scale and intensive development, promote the application of comprehensive separation and utilization technologies for refractory minerals, promote the construction of green mines and smart mines, and strengthen standardized management of the iron ore industry. Establish iron ore capacity reserve and mineral land reserve systems, promote the comprehensive development and utilization of vanadium-titanium magnetite, and strengthen the basic guarantee capacity of domestic mineral resources. Steadily promote the development and utilization of overseas</p>

<p>通、能源、金融等领域的优势企业组成联合体，加快推动西非、西澳等境外特大型铁矿项目建设，加强与俄罗斯、缅甸、哈萨克斯坦、蒙古等邻国铁矿石资源合作。推进东南亚、中亚、非洲等合金及合金矿资源开发和利用，尽快形成有效供给能力。推进铁矿石联合采购，增强铁矿石定价话语权，研究建立更加公开、公正、透明的铁矿石定价体系。发挥铁矿石期货的价格发现功能，加强期货市场监管，查处违法违规交易和行为，切实服务实体经济。加强标准规范，有序推进再生钢铁原料进口和资源利用。</p>	<p>resources, and in accordance with the principles of fairness, openness, and win-win marketization, encourage advantageous enterprises in the fields of steel, transportation, energy, and finance to form consortia, and accelerate the construction of large-scale overseas iron ore projects in West Africa and Western Australia and strengthen iron ore resource cooperation with neighboring countries such as Russia, Myanmar, Kazakhstan and Mongolia. Promote the development and utilization of alloy and alloy mineral resources in Southeast Asia, Central Asia and Africa, and form an effective supply capacity as soon as possible. Promote joint iron ore procurement, strengthen the bargaining position in iron ore pricing, and study the establishment of a more open, fair and transparent iron ore pricing system. Give full play to the price discovery function of iron ore futures, strengthen the supervision of the futures market, investigate and deal with illegal transactions and behaviors, and effectively serve the real economy. Strengthen standards and regulations, and promote the import of recycled steel raw materials and resource utilization in an orderly manner.</p>
<p>（十三）深化改革开放合作。深入推进国有钢铁企业“三项制度”改革，深化混合所有制改革，增强企业发展内生动力；鼓励民营钢铁企业提升经营能力、管理水平、完善法人治理结构，更好激发非公有制经济活力和创造力。持续加强“一带一路”国际钢铁产能合作，有序引导优势产能“走出去”。探索实施高质量标准引领行动，加大国际标准转化和制定，加大中国标准外文版的译制，积极推动中国标准和中国智造“走出去”，推动中国钢铁的产品、装备、技术、服务、文化等协同“走出去”。深化国际合作，加大对外开放力度，稳外资稳外贸，鼓励国</p>	<p>(13) Deepen cooperation in reform and opening up. Deepen the reform of the “three systems” of state-owned steel enterprises, deepen the reform of mixed ownership, and strengthen the endogenous motivation of enterprise development. Encourage private steel enterprises to improve their operating capabilities, management levels, improve corporate governance structures, and better stimulate the vitality and creativity of the non-public ownership economy .Continue to strengthen the “Belt and Road” international steel production capacity cooperation, and guide superior production capacity to “go global” in an orderly manner. Explore and implement high-quality standards leading actions, increase the transformation and formulation of international standards, increase the translation of Chinese standards in foreign languages, actively promote Chinese standards and China’s smart manufacturing to “go global”. Promote the collaborative “going out” of China’s steel products, equipment, technology, services, and culture. Deepen international cooperation,</p>

<p>内外钢铁、矿山企业加强合作，构筑互利共赢的产业链供应链合作体系，共同开发第三方市场，加强国内外钢铁行业人才、技术等方面的交流与合作，推动科技创新、管理创新，提升企业运营效率，优化资源配置保障，共同打造优势互补的全球化钢铁产业生态圈。</p>	<p>increase opening to the outside world, stabilize foreign investment and foreign trade, encourage domestic and foreign steel and mining enterprises to strengthen cooperation, build a mutually beneficial and win-win industrial chain supply chain cooperation system, and jointly develop third-party markets. Strengthen the exchanges and cooperation of talents and technology in the steel industry at home and abroad, promote technological innovation and management innovation, improve corporate operational efficiency, optimize resource allocation guarantees, and jointly create a global steel industry ecosystem with complementary advantages.</p>
<p>（十四）维护公平市场秩序。加强钢铁企业生产经营规范管理，强化质量、装备、环保、能耗、安全的要素约束作用，不断强化事中事后监管，实现“有进有出”动态调整，持续督促企业规范发展。以标准规范为抓手，推动铸造生铁高炉、铁合金、电解金属锰等企业规范经营，提质升级。加强企业诚信体系建设、营造公平诚信的市场环境，将擅自新增产能、弄虚作假、不规范经营等行为纳入信用信息共享平台，在“信用中国”等网站公布，实行联合惩戒和信用约束，引导企业依法依规经营、良性竞争。发挥行业组织作用，增强企业社会责任意识和行业自律精神，避免无序低价恶性竞争，维护行业平稳运行；建立企业高质量发展评价体系，开展质量效益分析评价，实施企业分级分类管理，更好发挥产业政策靶向作用，推动行业高质量发展。</p>	<p>(14) Maintain fair market order. Strengthen the standardized management of production and operation of steel enterprises, strengthen the restrictive effects of quality, equipment, environmental protection, energy consumption, and safety, continuously strengthen the supervision during and after the event, realize the dynamic adjustment of “in and out”, and continue to supervise the standardized development of enterprises. Taking standard specifications as the starting point, promote the standardized operation of foundry pig iron blast furnaces, ferroalloys, electrolytic metal manganese and other enterprises to upgrade their quality. Strengthen the establishment of a corporate integrity system, create a fair and honest market environment, incorporate unauthorized increase in production capacity, fraudulent practices, and irregular operations into the credit information sharing platform, publish it on websites such as “Credit China”, implement joint punishments and credit constraints, and guide enterprises to operate in accordance with laws and regulations, and have healthy competition. Give full play to the role of industry organizations. Enhance corporate social responsibility awareness and industry self-discipline. Avoid disorderly and vicious price competition, and maintain the stable operation of the industry. Establish a high-quality development evaluation system for enterprises, carry out quality and benefit analysis and evaluation, and implement hierarchical and</p>

	classified management of enterprises. Give full play to the targeting role of industrial policies to promote high-quality development of the industry.
<p>（十五）提升本质安全水平。各地区要进一步提高安全意识，结合本地区实际，立足源头预防，从行业规划、产业政策、法规标准、行政许可等方面指导行业加强安全生产管理。钢铁企业要健全完善安全风险防控机制，持续推进安全生产标准化建设，全面落实安全生产责任体系，深入开展安全风险隐患排查治理，淘汰落后高风险工艺技术和设备，实施重大危险源在线监控与预警技术，提升本质安全水平，防范和遏制重特大事故的发生。钢铁企业应加大安全投入，大力提升网络安全、工业控制系统安全防护水平，落实网络安全主体责任，制定网络安全、工业控制系统安全事件应急响应预案，定期进行演练，提高商用密码应用安全，健全安全风险评估管理机制，有效识别企业网络安全风险点，积极应对新兴技术融合带来的安全挑战。</p>	<p>(15) Improve the level of intrinsic safety. All regions shall further enhance their safety awareness, combine the actual conditions of the region, base prevention on the source, and guide the industry to strengthen production safety management in terms of industry planning, industrial policies, regulations and standards, and administrative licensing. Steel enterprises must improve risk prevention and control mechanisms, continue to promote the standardization of production safety, fully implement the production safety responsibility system. Conduct in-depth investigations and management of hidden safety risks, eliminate outdated high-risk technology and equipment. Implement online monitoring and early warning technology for major hazards, improve the level of intrinsic safety, prevent and contain the occurrence of major accidents. Steel companies shall increase security investment, vigorously improve the level of network security and industrial control system protection. Implement the main responsibility of network security, formulate emergency response plans for network security and industrial control system security incidents. Conduct regular drills, improve the security of commercial password applications, and improve the security risk assessment and management mechanism to effectively identify corporate network security risk points and actively responds to security challenges brought about by the integration of emerging technologies.</p>
<p>三、保障措施</p>	<p>III. Safeguard measures</p>
<p>（十六）加强组织实施。各地工业和信息化主管部门依据本意见，结合本地区发展实际和特点，加强与相关部门的统筹协调，强化事中事后监管，推进各项工作落实、落细。有关企业要根据自身实际，按照确定的主要目标和重点任务，务</p>	<p>(16) Strengthen organization and implementation. Based on this opinion, the local industry and informatization authorities shall strengthen the overall coordination with relevant departments, strengthen the supervision during and after the event, and promote the implementation and implementation of various tasks in accordance with the actual development and characteristics of the region. Relevant enterprises shall pragmatically advance relevant work in accordance with their own actual</p>

<p>实推进相关工作。相关行业组织要充分发挥好桥梁纽带作用，加强对企业的指导和服务，及时反映意见实施过程中出现的新情况、新问题，提出政策建议。</p>	<p>conditions and the main objectives and key tasks determined. Relevant industry organizations shall give full play to the role of bridges, strengthen guidance and services to enterprises, and promptly reflect new situations and new problems that arise during the implementation of opinions, and put forward policy recommendations.</p>
<p>（十七）强化政策协同。研究制定支持钢铁工业高质量发展的节能、环保、安全、财政、金融、土地、资源综合利用等政策措施，强化政策间衔接配合，形成政策合力，做到因地制宜、有保有压、精准施策。加强相关政策措施的落地实施，营造公平竞争、健康有序的政策环境。创新支持方式，引导和鼓励社会资本加大对智能制造、绿色制造、新材料、资源保障等方面的支持力度。注重需求引导和标准引领，推进下游用钢行业提高设计规范要求和标准水平，引导钢铁产品消费升级。</p>	<p>(17) Strengthen policy coordination. Research and formulate policies and measures to support the high-quality development of the steel industry in terms of energy conservation, environmental protection, safety, finance, banking, land, and comprehensive utilization of resources. Strengthen the coordination between policies, and form a policy synergy, so as to adapt measures to local conditions, maintain pressure, and implement precise policies. Strengthen the implementation of relevant policies and measures to create a fair competition as well as a healthy and orderly policy environment. Innovate support methods, guide and encourage social capital to increase support for smart manufacturing, green manufacturing, new materials, and resource protection. Pay attention to demand guidance and standard guidance, promote the downstream steel industry to improve design specifications and standards, and guide the upgrading of steel product consumption.</p>
<p>（十八）抓好示范引领。构建钢铁企业高质量发展评价体系，结合钢铁企业生产经营规范的分级分类管理，提升规范企业“有进有出”动态管理质量，开展高质量钢铁企业创建活动，优选若干家在智能制造、绿色低碳、补短板等领域具有代表性成果、发展质量高的钢铁企业，打造成为示范企业，持续深入开展对标挖潜工作，引领钢铁行业高质量发展。</p>	<p>(18) Do a good job of demonstration and guidance. Establish a high-quality development evaluation system for steel enterprises. Combine with the graded and classified management of the production and operation specifications of steel enterprises. Improve the quality of dynamic management of standardized enterprises with “in and out” and carry out high-quality steel enterprise creation activities. Select several steel companies with representative achievements and high development quality in the fields of smart manufacturing, green and low-carbon operation, that are effectively addressing their shortcomings and build them into demonstration companies. continue to carry out benchmarking and tap the potential, and lead the high-quality development of the steel industry.</p>

（十九）加强舆论宣传。通过报刊、广播、电视、互联网等主流媒体方式，广泛宣传钢铁行业高质量发展的好经验、好做法，树典型、学先进，维护和提升钢铁行业的社会形象，增强全行业推动高质量发展的使命感、责任感、光荣感。加强舆论监督，及时曝光违法违规行为，强化负面警示。积极跟踪舆情动态，加强政策解读和宣贯，及时回应社会关切，形成良好的舆论环境。

(19) Strengthen public opinion propaganda. Through mainstream media such as newspapers, radio, television, and the Internet, extensively publicize the good experiences and practices of the high-quality development of the steel industry, establish models, learn advanced, and maintain and enhance the social image of the steel industry. Enhance the sense of mission, responsibility and honor of the whole industry to promote high-quality development. Strengthen the supervision of public opinion, timely expose violations of laws and regulations, and strengthen negative warnings. Actively follow the dynamics of public opinion, strengthen policy interpretation and publicity, respond to social concerns in a timely manner, and form a good public opinion environment.